THE GENESEE FARMER.

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SHALL WE HAVE TO ABANDON WHEAT GROWING IN WESTERN NEW YORK?

Owing chiefly to the depredations of the weevil—or more correctly the wheat midge (*Cecidomyia tritici*) it is feared that wheat culture will have to be given up in Western New York, at least for a few years.—The subject is one of great importance, and is attracting some attention. At the late meeting of the Farmer's Club of Monroe County, the question for consideration was, "What substitutes for the Wheat crop can be adopted with the most profit in this county?" The fact that such a subject should be selected for discussion at two successive Farmers' Clubs in a county which, according to the census of 1845, produced more wheat per acre than that of any other county in the State, and a greater number of bushels in the aggregate than the whole five New England States, is well calculated to create alarm.—Is it true that wheat culture must be abandoned in Western New York? *We think not.* We are well aware that the midge has done serious damage to the wheat crop in this vicinity for the past few years; still we believe the extent of the injury has been over estimated. In 1855, we should have had a full average crop of excellent wheat had it not been for the rainy weather which set in just as the crop was ready to cut, and which continued for nearly a fortnight, causing the grain to sprout to an extent never before known in this country. One of our most experienced millers estimated that at least three-fourths of the crop was destroyed in this way; and from careful examination of the crop in several counties at the time, we believe the estimate is none too high. This grown wheat *was used for seed* to a great extent, in the fall of 1855, and the crop of last year suffered materially in consequence. The failure of the wheat crop in 1855–6, therefore, cannot be ascribed to the depredations of the midge alone, but, in some degree at least, to causes which are of unusual occurrence.

While this is true, we cannot close our eyes to the fact that the midge has made serious havoc with the wheat crop in some sections. On one field in this vicinity, which came under our own observation, last year, at least one-half of the crop was destroyed; but this took place on land which was too low and too wet to grow a good crop of wheat, even under the most favorable circumstances. On another field on the same farm, where wheat was sown on good, dry, well-prepared soil, a little over twenty bushels of good wheat was obtained per acre. *So far as we could judge, the midge injured one nearly as much as the other.* Had not the midge injured either of the fields of wheat, the one would have produced a crop of 10 bushels, and the other a crop of 25 bushels per acre. The midge destroyed 5 bushels per acre on both fields, and left, on the low, wet land, 5 bushels, and on the good land, 10 bushels per acre. The midge destroyed as much wheat in both cases, though it took half the crop on one field, and only one-fifth on the other!

There may be instances where the midge has destroyed more than five bushels per acre, but we think that in this neighborhood, except under very unfavorable circumstances, this was the extent of the damage. Now, while a loss of five bushels per acre causes no trifling diminution of the profits of even an unusually large wheat crop, yet it is evident that the loss is far less under a good than under a poor system of cultivation. It seems to us, therefore, that instead of looking for substitutes for the wheat crop, we should endeavor to ascertain the most economical means of increasing the fertility of our farms, and of concentrating more labor and manure on those portions of the farm best adapted to wheat culture.

On the farm of Mr. E. S. Hayward, of Brighton, in this county, results were obtained, last year, even more favorable to "high farming" than in the instance already mentioned. He obtained his seed from Canada (where the harvest weather of 1855 was propitious, and the wheat was not injured as in this neighborhood,) and sowed two bushels per acre, on naturally good, dry wheat soil prepared in the best manner. From the quantity of shrunken grains, it was estimated that the midge destroyed about five bushels per acre, and yet the crop yielded over thirty five bushels of very superior wheat per acre. The midge in this instance destroyed as much wheat *per acre* as in the first case mentioned, where it eat half the crop, and yet here only one-eighth of the crop was lost.

We are well aware that it has of late years been fashionable to recommend "High Farming" as a remedy for every evil that affects the farmer; and though we have more than once shown the absurdity of such recommendations, it is evident to us that the best means of alleviating the fearful injuries caused by the wheat midge will be found in a better system of cultivation, or if you will excuse the term, in "High Farming."

It is well known that early wheat is less liable to injury from the midge than that which matures later. The reason for this is well known, and we need not allude to it here. On this account early sowing is

generally recommended, and has been attended with success; but early sown wheat is more liable to injury from the Hessian fly than late sown.—Early sowing, therefore, cannot be adopted in all cases. The object of the wheat grower, it would seem, should be to increase the early maturity of the berry, or to accelerate the elaborating processes after the grain is formed. Anything which increases the *healthy* growth of the wheat is favorable to this result. Underdraining is one of the great prerequisites on all land that is not naturally drained. The next thing is to supply the plants with *appropriate* food. In saying this we would guard against a popular error. The food of wheat is composed of the same elements as that of other plants, and, in one sense, therefore, the food of wheat is the same as the food of other plants. So of the food of animals, however diverse in form and characteristics it may be, it is all composed of the same elements.—The food of the gentle lamb and the food of the fierce tiger are composed of the same elements, but still there is a vast difference between grass and flesh. So the food of plants is composed of the same elements, though there is unquestionably a great difference between the appropriate food of wheat and of many other agricultural plants. A carniverous animal would not remain long in health if fed on vegetables, neither can we expect wheat to attain its maximum healthy growth unless fed on its most appropriate food. What that food is, thanks to the experiments of Lawes and Boussingault, is now pretty definitely understood.

The appropriate food of wheat abounds in ammonia, and is comparatively deficient in carbonaceous matter. It also contains less available potash and phosphates than is required in the appropriate food of clover and turnips. It should be the aim of the wheat grower, therefore, to increase the amount of ammonia in the soil without increasing the quantity of carbonaceous matter. We have frequently stated how this can be most economically attained. Grow clover, peas, beans, turnips, ruta bagas, mangel wurzel, beets, carrots, parsneps, artichokes, lupins, and such other crops as obtain a large amount of ammonia from the atmosphere; feed these crops out on the farm to animals, and if grain is fed to them in addition, let it be such as, other things being equal, contain the largest quantity of nitrogen; (see table in last number, page 10) husband the manure so as to retain all the ammonia, and this will furnish the wheat with *appropriate* food.

The object of the wheat grower, we have said, should be to increase the early maturity of the berry. Fortunately, an increase of the appropriate food of the wheat plant seems to have this effect. JAMES CAIRD, of Beldoon, Scotland, dressed a fifty acre field of wheat with 224 lbs. of Peruvian guano per acre, at the time the seed was sown in the fall, leaving an acre in the centre of the field without guano. The product at harvest was, without guano, 25½ bushels per acre, weighing 60 lbs. per bushel; with guano, 32 bushels per acre, weighing 63 lbs. per bushel.

What we wish to call attention to, however, is not the increase of wheat from guano, or the superior quality of the grain on the guanoed portion of the field, but to this remarkable fact; the acre without guano in the centre of the field, *was a week later in ripening* than where the guano was used.

We think most farmers will agree with us that if we could bring our wheat to maturity a week earlier than usual, we should have little to fear from the ravages of the midge. We are not, however, about to recommend the farmers of Western New York to use guano,—at the present price of guano it would hardly be profitable, unless wheat commands a high price. We must supply the soil with the elements of guano from natural and more economical sources.—The plan we have recommended,—growing more roots, clover, peas, &c., and feeding more stock on nitrogenous foods—will be an approximation to this object. Peruvian guano is nothing more nor less than the excrements of birds living on highly nitrogenous food; namely, fish. The excrements, as we explained in an article on "Barn Yard Manure," in last number, may be considered as fish with nearly all the carbon extracted from them by the processes of nutrition. Wheat needs but little carbon in its food, and a large quantity of ammonia, and hence guano is one of the very best manures that can be used for wheat. Now fish, in their natural state, may be, and unquestionably are, very beneficial as a manure, but any organized matter is not as natural a manure as the excrements obtained from the consumption of such matter. Animal life cannot exist on inorganic matter, and plants cannot live on organized matter. The lifeless substances of earth and air, are organized by plants, and are thus made capable of sustaining animal life, with all its pleasures. It is true that there are plants which appear designed to furnish by their decay matter for the support of plants of a higher organization, but there are few if any agricultural plants which properly belong to this class. It is contrary to the economy of nature to use plants which are capable of sustaining animal life for the purpose merely of furnishing food for other plants. It is reasonable to suppose, therefore, that decayed vegetable plants do not furnish as healthy food for the high order of plants as the excrements of animals living on these plants. For this reason, while we are earnest advocates for the extensive cultivation of clover on all wheat farms, we think it is contrary to the laws of nature to plow under such a large amount of matter capable of sustaining animal life for the simple purpose of furnishing food for the following wheat crop. Manure furnished by decayed clover is not as appropriate food for wheat as the excrement of animals living on clover. It contains too much carbonaceous matter, and while the nitrogen of of the clover furnishes, by decay, the required ammonia—and this ammonia not only increases the crop, but accelerates early maturity—the carbonaceous matter (forming over four-fifths of the clover) is of little manurial value, and at the same time has a tendency *to retard the ripening processes.*

In order to enrich the land, therefore, and at the same time increase rather than retard the early maturity of the crop, we would recommend to grow as much or more clover than at present, and instead of plowing it under to convert the organized carbonaceous matter into beef, mutton, cheese, butter, wool, &c., and to return the ammonia to the soil in the form of manure.

We cannot bring ourselves to believe for a moment that we shall have to give up wheat culture in Western New York. It is true that in the Eastern States, and in the eastern counties of this State, wheat culture has been to a great extent abandoned. The soil there is not and never was a good, natural wheat

soil, and the farmers have found it cheaper to cultivate other crops than attempt to compete with western growers in the production of wheat. The ravages of the Hessian fly, it is true, and the impoverishment (not *exhaustion*) of the soil have also helped to bring about this result, but the case is different with us. Our soil and climate are exceedingly favorable for the production of wheat. There is no *better* wheat soil in the world, and but very little in this or any other country that is as good. In fact the soil which is naturally adapted to wheat is comparatively limited on this continent. This fact is an additional reason why the farmers of Western New York should not abandon wheat culture without an earnest effort to discover some method of counteracting or at least mitigating the ravages of the midge. If the "Genesee country" will not produce wheat, where shall we look for the "staff of life?"

While nearly all the soil of Western New York is well adapted to wheat culture, there are on every farm some fields that are more suitable for wheat than others. We must confine the cultivation of wheat to such land. Let the portion of the farm less favorable to wheat be cultivated with those crops which, when consumed on the farm, furnish the most valuable manure. Let this be used to enrich the soil for wheat. (How this can best be done we leave for future consideration.) In short, sow early varieties of wheat on the best portions of the farm, underdrain, adopt a judicious system of manuring, and our word for it, wheat culture will not have to be abandoned in Western New York.

ITEMS SUGGESTED BY THE JANUARY NUMBER.

Christmas day brought me the *Farmer* for January, so I had a foretaste of the New Year, and some thing to set me to thinking on my favorite topics—practical and scientific agriculture. The volume opens with an excellent editorial on

Barn-Yard Manure.—An examination, to a considerable extent, of what is known—practical and scientific—on this subject, has led me to the conclusion that the dung of animals possesses its greatest manurial value when *green*, or before decomposition takes place. If the straw and corn stalks fed out and used as litter, were first passed through a cutter, the manure would be perfectly fitted at once for plowing under the soil—so far as its capacity to increase the elements of fertility therein is concerned. As we cannot, however, apply winter-made manure immediately, and as the coarse straw, &c., usually mixed with it renders its handling and covering very inconvenient, we must study the best means to prevent loss, and to fit it for use when the season for its application arrives. Your system is worthy of the adoption of farmers, and it is one which I attempt to carry out as far as my circumstances and farm buildings will allow. Such a wheel-barrow as you describe is in frequent use for mixing manures—for placing as great a portion as is convenient under the sheds which shelter the stock.

Profits of Sheep.—Taking the estimate of Mr. Gore, in the adjoining column, of the expense of keeping sheep, the profit of Mr. Smith's flock is about $40. The rise in the market price of sheep has much more to do with it than anything made from wool growing; though the latter seems coming up into the neighborhood of other farm products. It may well do so.

Rats and Mice.—We have heard it remarked that these "pests of the farm" were generally more abundant after a snowy and steady winter, like the last, and disappeared as rapidly as they came. We are glad to see this confirmed by Mr. Bartlett's experience.

Shade as a Manure.—Your Cheviot correspondent brings forward a fact in regard to mulching potatoes, and the after wheat crop, which would be taken as a confirmation of the value of shade as a manure. It is a fact that covering the ground closely causes a change in its character and some experiments show that it is produced by the rising of mineral matters of a fertilizing nature from the subsoil. When moisture comes up by capillary attraction to the surface from any cause, it generally brings with it something beneficial to the soil.

Fall and Spring Plowing.—It seems to me that the *manner* of plowing had more to do with the result than the *time*, in the case stated by your correspondent, S. W. The depth of the soil prevented the full effect of the drouth, and had Allerman's field been plowed deeper, and with narrower furrows, the sward would have rotted more rapidly. Still, fall plowing had some effect, and I am glad to see that Wright proposes to apply another test to the question.

Beets for Milch Cows.—Though my crop of sugar beets, this year, is hardly worth what it cost me, yet I find them of high value for milch cows. That they are worth more for milk than potatoes, I have little doubt, for the increase in milk from feeding raw potatoes, seems always at the expense of its quality. S. W. says that "experiment proves that in their raw state, beets develope in the process of digestion, their full nutritive value." I cut mine, add warm water and salt, and mix in buckwheat bran, giving about six quarts a day to one of my milch cows. The result is very satisfactory, though an aunt of mine, a notable butter maker, used to say that one beet, *boiled*, would make as much milk as three fed raw.

Beans for Stock.—In your remarks upon beans as a fallow crop, you say that to obtain the full benefit of it, they should be fed out on the farm. In this country very little use is made of beans for stock—indeed, I do not know that anything except sheep will eat them raw. I am feeding bean straw to my sheep—they eat it very readily; and in the fall, when boiling apples, potatoes, &c., for my hogs, I put in a quantity of refuse beans—the screenings, of the crop—which were not refused by these animals. Would it be profitable to feed beans to sheep at $1.25 per bushel, the present market price?

Spring-halt in Horses.—This disease, about which J. K. inquires, is little understood by farriers, but is supposed to be a partial paralysis of the nerves leading from the limb to the brain, which is the cause of the peculiar involuntary motion observed. The following remedy is simple, and has been used with success: Rub neat's-foot oil over the cord on the inside of the gambrel, making frequent and thorough applications. In warm weather it is said that it will generally effect a cure, and at any time afford great relief.

Patent Office Report for 1855.—There is a steady improvement in the arrangement and getting up of this document, and the volume for 1855, sent us by Hon. H. Fish, is the best yet issued. Browne is doing a good work in the Agricultural Bureau, as men who are interested in their labor always can and will. B.—*Niagara Co., N. Y.*

THE NUMBER OF POUNDS IN A BUSHEL.

The following Table of Weights, obtained by a firm in this city from the Secretaries of the different States, showing the number of pounds which their laws recognise as a bushel of the following articles, will be of value for reference.

All States not included in the table, as well as the blanks, are regulated by the United States standard:

STATES.	Wheat.	Rye.	Corn.	Oats.	Barley.	Buckwheat.	Clover Seed.	Timothy Seed.	Flax Seed.	Hemp Seed.	Blue Grass Seed.	Dried Apples.	Dried Peaches.	Dried Plums.	Coarse Salt.	Fine Salt.	Potatoes.	Peas.	Beans.	Castor Beans.	Onions.	Corn Meal.	Mineral Coal.
	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.
New York,	60	56	56	32	48	48	60	45	56	44	15	22	32	....	56	56	60	60	60	46	57	....	....
Ohio,	60	56	56	32	48	....	64	42	56	....	....	25	33	....	50	50	....	....	56	....	....	....	....
Pennsylvania,	60	56	56	32	47	48	....	....	....	....	....	....	....	....	85	62	....	....	....	....	....	....	....
Indiana,	60	56	56	32	48	50	60	45	56	44	14	25	33	....	50	50	60	....	60	46	57	50	70
Wisconsin,	60	56	56	32	48	42	60	....	....	....	....	28	28	....	....	....	....	....	....	....	....	....	....
Iowa,	60	56	56	35	48	52	60	45	56	44	14	24	33	....	50	50	60	....	60	46	57	....	....
Illinois,	60	54	56	32	44	40	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Michigan,	60	56	56	32	48	42	60	m	m	....	....	28	28	....	....	....	....	....	....	....	....	....	....
Connecticut,	56	56	56	28	....	45	....	....	....	....	....	....	....	....	....	....	60	....	....	....	....	....	....
Massachusetts,	60	56	56	30	46	46	....	m	m	....	....	....	....	....	70	70	60	60	60	....	50	....	....
Rhode Island,	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	60	....	....	....	50	50	....
Kentucky,	60	56	56	33½	48	52	60	45	56	....	....	....	....	....	50	50	....	....	60	....	....	....	....
New Jersey,	60	56	56	30	48	50	64	....	55	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Vermont,	60	56	56	32	46	46	....	....	....	....	....	....	....	....	....	....	60	....	....	....	....	....	....
Missouri,	60	56	52	m	m	m	m	m	m	....	....	....	....	....	50	50	....	....	....	....	....	....	....
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Canada, (Custom,)	60	56	56	34	48	48	60	48	56	....	....	22	22	....	56	56	....	60	60	....	....	....	....

FEED FOR POULTRY.

Neither fowls, nor anything else, can prosper unless well cared for. No observant person could have the charge of fowls for a month, and not be fully aware, at the expiration of that period, that the growth of the chicken, the accumulation of flesh, and the production of eggs may be best promoted by a judicious adaptation of the food to the object specially in view. That without good shelter for our birds, the consumption of food is also increased in proportion to the carbon thus exhausted, will be soon manifested to the dullest intellect.

Grain of different kinds forming the main article of our poultry's feed, at the present high prices would seem to indicate increased inquiry as to the relative value of each for that purpose.

In estimating the comparative value of the numerous items which are more or less a portion of our fowls' "bill of fare," let us take Indian corn as our standard. Now the present price of this grain is 87½ cents; barley $1 25; buckwheat 80 cents, and oats 60 cents per bushel. Oats at this price, (30 lbs. to the bushel,) we would not recommend, excepting where some change of diet appears necessary; but while the relative prices of corn stand as above, we should not be found among the purchasers of oats, to be given whole, however useful in the form of meal, or crushed.

The existence of fowls would be of short duration were they confined, or limited to one single kind of food, however excellent of its kind; this would necessarily imply a state of confinement for the experiment, for a large variety would always be at hand. Many articles most useful for a change would, if given continuously, prove highly injurious, such as wheat, peameal, or animal food; while others, such as barley and crushed oats, harmless in themselves, would either be refused, or else, if taken, disorder the natural functions of the body.

But though wheat is a dearer article than barley it is most useful at certain periods; for nothing exceeds it for laying on flesh, and forming muscle for young birds.

Barley sprouted, and malt mixed, could, occasionally, be given with excellent effect; and it is excellent for poultry of all ages—and so is brewers grains, if given fresh and hot. Buckwheat must be of the very best, for samples any way stale, will be rejected; indeed, we have found our poultry dainty about it even when accustomed to it when young; but many breeders find it otherwise, and use large quantities of this grain, which, when boiled, appears to be more highly esteemed.

Indian corn, whole or cracked, the latter probably is most profitable shape, we consider the most economical, and most highly esteemed.

Whenever flesh is to form a portion of the food of our poultry, we should prefer giving it boiled, and not in a raw state.

Poultry eat a great variety of food: all kinds of grain, and seeds, and preparations made from them; also, most sorts of vegetables, raw or boiled; and, it is well-known, they are fond of a certain quantity of animal food, raw or cooked—insects and worms, grubs and maggots, they search for and devour with avidity, and some persons collect these on purpose for them. Wheat middlings, shorts, bran, corn and oat meal are useful, and are profitably given in combinations, particularly with boiled or steamed potatoes, in which form they afford a cheap supply of very nourishing food; but it is essential not only that these should be boiled or steamed, but that they are given *warm*, for fowls dislike them if given to them cold. In most houses there are many scraps, and refuse, that will serve for fowls, such as crumbs of bread, fragments of pies and puddings, and even bits of meat, and fish, and vegetables, such as lettuce, endive cabbage, spinach, chickweed and grass.

Fowls do not judge so much by taste and smell as by the eye in distinguishing their food, which, when, first swallowed, passes into their crops, and after being there macerated, goes into the funnel-stomach, and then into the gizzard, in which it is triturated, or ground, as in a mill, which appears to answer the

same purpose as the teeth of quadrupeds. To assist this effect, fowls pick up and swallow many small pebbles and stones; and it is proper to lay some of these about in the place where they are kept. Pure water only should be given them, for foul or bad water is certain to cause disease.

The faults of modern feeding, are feeding out of vessels of any description,—throwing down large heaps of food,—irregularity,—and too often the substitution of anything cheap, for that which is wholesome.

Fowls are early risers. In a state of nature, all birds, at break of day are in search of food, and they find it. What an evil it is, then, for them to be fed one day at seven, next day at nine, and sometimes not till mid-day. A still greater evil is, to endeavor to make up for previous neglect by an extra quantity. If whole grain is fed, it is better to throw it far and wide, and scatter it as much as possible—among straw or grass, spread over the ground, making them work for a living, and you will see the fowls scatter about in a natural way, seeking the stray grains, and there will none be lost. It will cost no more than feeding in troughs, and the condition of the fowls will amply compensate for the little extra trouble.

BEMENT.

PLOWING LAND FOR CORN.

MESSRS. EDITORS.—Would you please tell S. W. to tell his friend Mr. JOSEPH WRIGHT not to plow his sod land too deep in the Spring for corn. I never got a good crop of corn when I turned up subsoil. His distillery manure was put on far too late. Had it been put on the sod about the 1st of October, it would have told with good effect. He had better, now wait until the land is plowed, and then mix the manure with the soil by the harrow. Sod rots much sooner when the furrows are not laid flat,—it is bad policy to lay furrows flat for any crop.

You know I advocate rest for land. I will tell you how I have managed a 17 acre field, to which I never applied manure, except salt and plaster, and I do not know that they can be called manure. I have taken a crop of wheat from the 17 acres, every third or fourth year; seeded with clover and timothy, and pastured it with either sheep or cattle. The intervening years under this treatment the crops of both grass and wheat have been improving. I plaster it every seventh year and some years sow a barrel of salt to the acre on the wheat. It is wonderful the amount of pasture it affords. I have sometimes fatted 17 large three and four year old steers thoroughly fat, and those wintered with hay only; and some years I have known it make 120 wethers very fat. It would not have fatted half the stock at one time.

My last crop of wheat on this field was 31 bushels to the acre, notwithstanding the weevil. Considerably more than half the field was more or less injured by water, according to the season. It is thoroughly drained now, and sown with wheat. If you will visit me before harvest, I believe you will see a great crop of wheat. It is on the extreme east of my farm, and the highway passing along side, so that all who go along the road can see for themselves. I never had a failing crop on underdrained land, and I have no fear of this unless too heavy straw. JOHN JOHNSTON.

Near Geneva, N. Y., Dec. 14, 1856.

A MARSH AND ITS PRODUCTS.

EDS. FARMER:—About one-half of my farm was originally a marsh, its product dwarf bushes and cranberry vines in the centre, and a border of alder, willow, and poplar, next the highland. The muck covering it varied in depth from a few inches to several feet—the subsoil in most cases is a tenacious clay, though there are spots underlaid with light-colored sand, full of small sized cobble-stones. It was nearly cleared and partially drained when it came into my possession, but required still more labor to fit it for profitable tillage.

Some attempts were made at draining and clearing portions of this marsh, nearly forty years ago, by one who still owns the largest share of it, but the want of descent and depth of outlet for ditches, hindered its full success. When the drains were first cut, they carried off the surface water, and fine crops of oats and hay were grown in favorable seasons. But the surface seemed to settle year by year, and the ditches soon became clogged, and the water remained on late in the spring, which killed out the cultivated grass, so that the meadows proved of little value after three or four years' cropping. Favorable results, however, always followed the clearing and deepening of the ditches, and the plowing and re-seeding of the grass lands, but it was not until nearly twenty years ago that any part of the marsh was brought into cultivation.

The season to which I refer was a very dry one—there was no water on any part of the marsh—and, late in summer, a fire caught there, burning over a great portion of the same; taking out bogs, bushes, and muck from ten to fifteen inches in depth, and leaving the brush, well seasoned, resting on a bed of ashes from four to six inches in thickness. Living near by, many an evening did I spend with "the boys," raking these bushes into heaps and burning them, with the logs which had lain in the muck, roasting green corn by way of interlude. In course of the fall, some thirty or forty acres were cleared, and all that part I now own was thus burned over.—During the winter it filled up with water and formed a grand skating pond, attracting from miles around those fond of that exciting exercise. In the spring, we found the ashes well leached, as the stream into which the water drained showed for miles, and, as I then thought and think still, to the great loss of the land and its owner. Better far had the ashes been gathered and applied to the adjacent upland.

When the marsh became sufficiently dry (the ditches had been cleared and deepened but a year or two before) the land was plowed and sown to oats, barley, and some portion planted to potatoes. All gave a bountiful yield, though I noticed that the straw became more and more liable to fall or lodge, and the grain lighter at each successive crop. Grass succeeded well, but corn and wheat gave no product worth mention. But I shall make far too long a story if I dwell on this past history.

My first seeding was to oats, but the wet summer of 1855 drowned out the greater share, so I did not get enough to replace the seed. Oats were again sown the next year, and the drouth burned them up, or, at least presented any decent growth, so that I was facetiously advised to *pull* them by a neighbor. The ditches had become filled up, and the water hindered plowing and sowing until very late, and the

oats had scarcely got rooted when hot, dry weather came, which they were unable to contend with successfully.

Next season I hope for better results I have expended much more in enlarging the ditches and deepening the outlet, (in company with those owning the remainder of the marsh,) than I have yet made from my little farm, and last fall I had the marsh plowed into narrow lands, and the furrows nicely opened into the main ditch, so that the water can pass off at once in the spring. The land will be fit for early sowing, and I shall again try oats and seed down to grass, hoping for more profitable returns hereafter. I find that some parts of the field, previously fall-plowed, are in better condition, especially where clay was turned up, and think that mixing muck and clay will have a good effect, and make a soil better fitted for our dry summers; while draining will *fix it* for our wet ones.

It is astonishing to see the vigorous growth the mud thrown out of the bottom of the ditch has produced. There must be great virtue in it, and I have no doubt that, if spread over the land, it would produce effects equal to the best manure. This is partly due, I think, to the animal matter it contains, for thousands of small fishes perished therein, as the water dried away, and there were also a great many little shells and water insects.

The higher portion of this marsh has lain for several years in meadow and pasture. I plowed it up last fall, and intend to plant some portion to corn and sow the remainder to oats and barley. I would like to underdrain this part, but must get some profit from it before I go to that expense—though if I had the money to do it at once, I am quite confident that it would be the most direct route to the *farming that pays*. B. F.—*Jan.*. 1857.

CULTIVATION OF POTATOES.

The Potato has long held a very prominent place among the necessities of man as an article of food, but being easily cultivated, and yielding a large return, with slight care or labor, there seems to have arisen among our farmers a most culpable negligence in raising and propagating so useful a vegetable; most farmers seem to think that it is sufficient to plow the ground, put in any kind of seed, run a plow between the rows once or twice in the season, and let them take their chance. If it should be a good season, and they happen to have the right kind of seed, they have a good crop; but the contrary *circumstances*, and their potatoes are not worth digging. Now if a farmer would be a farmer, it should be his aim to put in his crops in such a way that he may have at least a remunerative return, even in a bad season.—For instance, in this part of Illinois, this past season, most farmers have but few potatoes, and those very "small potatoes," on account of an extremely dry summer, while two or three, profiting by past experience, had large and profitable crops. Their process was this: They laid their seed on the top of the ground in rows two feet apart, and covered the ground all over with straw six inches deep, in which the potatoes grew without any further trouble; for while the potato vine was stout enough to force its way through the straw, weeds had to hide their diminished heads, as the straw was too much for them. But this would only answer for very dry seasons; and if these gentlemen repeat the process in a very *wet* summer, they will find the boot on the other leg; for the straw will hold so much water that if the potatoes are not entirely rotted, they will be found to be only fit for cattle and hogs; but that can be easily remedied.—The plan I shall adopt will be this: Put down three rows of seed two feet apart in beds six feet wide, leaving one foot wide outside of the outer row on each side, and dig a trench two feet wide and nearly as deep between the beds, throwing the beds, just barely covering the seeds; then put on straw five or six inches deep. If it should be dry weather, the straw performs its office by retaining moisture; if an extremely wet season, the surplus water drains off into the trenches.

A very important object in planting potatoes is to have sound seed, of a good variety. All who have planted the same kind of potato a number of years on the same farm, know that the potato will run out or get watery and hollow in the heart, and the evil increases every year whatever the season may be. Such potatoes can be restored to their former soundness, with the loss of only one season, in the following manner: Save back two or three bushels of potatoes for six or seven weeks after the usual time of planting, say until the last of June; then plant them in the usual manner. They will not be ready to dig till a frost has wilted the vines. On digging them then, they will be found to be quite small; save them carefully till spring, and plant them at the usual planting time, and if the season is favorable, they will produce large potatoes and as sound as ever that variety was originally. Charles Seagar.—*Waverly, Morgan Co., Ill.*

POTATOES ON CLOVER SOD.

"No plant enriches the soil so much for potatoes as red clover. But a tough clover sod, turned over immediately before planting, prevents, more or less, that thorough after-working of the soil, with the horse and hand hoe, which is essential to the production of a good crop. How can we get the enriching advantages of the clover sod without this drawback?—*Eds. Genesee Farmer, March*, 1856.

That clover sod prepares the land well—in fact first-rate—for potatoes, I know from experience. But that there is any material difficulty in proper after cultivation, I have never found, though I know it is not quite as easy hoeing as in a mellower soil. Let me give you my method of growing potatoes—one I have practiced for many years.

The same soil and preparation which will produce good corn, with me, brings a good crop of potatoes, and very generally the soil is fitted for both at one operation. I take a good clover sod, on a loamy soil, and apply from twenty to thirty loads of barn-yard manure—leaving it in heaps as drawn out, and spreading it immediately before plowing. Plow it but a few days before planting, from six to nine inches deep, taking care to make no balks, and to turn under the manure as perfectly as possible. I then harrow throughly, lengthwise the furrow, then, perhaps, across, so as to get the surface in as fine tilth as may be. But very few sods are torn up, and the *tougher* they are, the better. in my estimation.

The ground is then marked out and the potatoes planted—in hills, so as to give chance for cultivating both ways. I have never tried rows or drills, and think it would require more labor. To get the most

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potatoes put in half a dozen eyes to the hill, or one whole potato, but to get nice, large ones, do not put in more than three eyes in any instance.

The culture is simply passing through them twice each way with the horse hoe and filling with the hand implement. If I expect to hoe twice, I make small hills at first, and finish them up on the second hoeing. I think it would be a capital plan to harrow the whole surface as soon as the plants appear, with a light harrow, but have not yet tried it. I generally find it pretty mellow hoeing, am very little troubled by sods, if the plowing was done properly, and generally keep a clean surface without extra labor.

After hilling, I find it a good plan to top dress each hill with a spoonfull of plaster. Have never been troubled with the disease, more than those who plant without fresh manure, and in all cases have as good crops as are produced in the neighborhood by any course of treatment. P. B.—*Niagara Co., N. Y.*

CULTIVATION OF POTATOES WITHOUT THE USE OF THE HAND HOE.—MESSRS. EDS:—In the summer of 1855 I hit upon a plan of cultivating potatoes with as little labor as any I have seen recommended. The ground (the sward having been turned, manured and planted with corn the year before) should be plowed as soon as it is dry enough in the spring, and if time permits allow the weed seeds near the surface to germinate. Then give it a thorough plowing again, mark it with a plow three feet apart each way; drop one medium sized potato in each cross, covering with light mould about two inches deep, the seed having been selected carefully, using nothing smaller than a hen's egg, and if twice as large, split in two, none the worse; neither should they be planted until the ground is dry, if it is in May.

When they get out of the ground about four or six inches, take one horse, and a half mould board plow, go through them both ways, plowing two furrows in a row as close to the hill as practicable, turning the furrows from it, and be not afraid to let the plow run in, as now is the time to protect the crop from the effects of drought. At intervals of about one week, stir the ground three times with a small plow, turning the dirt towards the hills, kicking the dirt off with the foot where it pushes the tops over two much.—The ground by this time is thoroughly pulverized, and there will be no weeds except, perhaps, a few in the hill which are speedily removed by hand, taking two rows at a time. FROM A YOUNG FARMER WHO PREFERS DIGGING POTATOES TO PULLING WEEDS IN AUTUMN.—*Yorktown, West. Co., N. Y.*

WINTERING CALVES.

MESSRS. EDITORS:—As I was attending to my four calves, the other day, a looker-on said to me, "Why take so much pains to stable your calves—many people let them take their chance with the other stock through the winter." A mighty *poor chance*, I tho't it would be; for a farmer who would do that, would not take much pains for the comfort and thrift of any of his cattle.

There is "a more excellent way,"—one more satisactory to the "merciful man," and in the result which follows. Calves "that take their chance," are the same breed which furnish crows with bait and the tanners with hides in spring time. If they live it takes all summer for them to get ready to grow again—if *tough* enough, they will stand another winter and fill the ranks of the bony cows and unruly steers, which are the pests of our highways. My calves don't need *lifting* to get them up,—open the door and they are ready to run and jump, and all sorts of "cow-capers."

I'll tell you how I keep them—and it is at a small expense, too. They have a stable partitioned off in one of the sheds, 14 feet square, with rack and manger in one corner. Their apartment is close, except an open window on the east side, to let in light and air, and so sheltered that the wind does not blow in on that side three times through the winter. I feed them good hay twice a day, oat straw and chaff once, and water them daily. It would be better if they could have running water close at hand to drink at will, but this winter water is a scarce article; our well is dry, and the pond frozen nearly to the bottom.—Their stable is kept well littered and level, but at one time, the weather being pretty warm it got rather soft, so I changed them into another shed until this got frozen dry again. Their coats are smooth and sleek, and have a very different appearance from that presented late in the fall, when kept out of doors, before I got the stable ready for them.

There will be a lot of first-rate manure in that stable in the spring: former trials have convinced me that one load of it is worth three of common yard manure, and it is worth while to get as much good manure as you can—it tells on the yield amazingly—and, do you know,—all you increase the product above a certain point (the cost of production) is *clear profit.* Then, brother farmer, *give* your calves a chance, don't wait for them to *take* it—you will find it to pay in more ways than you think of. FARMER B., —*Jan.* 13, 1857.

AGRICULTURAL READING.

EDITORS GENESEE FARMER.—Having spent considerable time in getting subscribers for an agricultural journal in this neighborhood. I have observed that those who have taken an agricultural paper this year have never refused to subscribe for the ensuing year. But where the land looks poor I always think that no agricultural paper ever enters the owners house, and that he reads little, if any, but is willing to do as his fathers did before him. I will give an incident of my experience with one of that class. In going my rounds, I approached the homestead of Mr. ——, and after the compliments of the day were over I drew from my overcoat pocket a specimen copy of an agricultural journal with the request that he would subscribe for it, after looking it over for awhile he handed it back saying "he guessed he would'nt take it, for he did not believe it would be any use to him, for all they, (the papers,) talked about is to drain, lime and manure your land, and I know that already." His last wheat crop belied his knowledge of agricultural science, for his land yielded at the rate of ten bushels per acre, while his more intelligent neighbor obtained twenty bushels per acre. Farmers must study if they wish to raise remunerating crops. But "just as the twig is bent, the tree 's inclined:" so begin young.

The importance of good reading for farmers' sons and daughters, is not appreciated as it should be.—Home must be made attractive if you wish to see your sons and daughters grow up intelligent men and

women. And how can it be done better than by furnishing good books; not works of fiction which poison the mind, and leave it in a worse condition than it was before, but works which contain good, substantial reading, that inform and invigorate the mind. I have often thought that it would be a good idea for farmers to expend the money they receive at the autumnal fairs for premiums, in books and papers adapted to their business, and let their families have free access to them, for the more they read the better will they be fitted to follow what WASHINGTON calls "the most healthy and honorable, as it is the most natural and useful pursuit of man." D. KNOX.

WINTER BARLEY

EDS. FARMER:—Some inquiry has been made in regard to the cultivation of Winter Barley, but as yet we hear no reply. It is well known that in the milder districts of Europe, and even in the south of England, some varieties of barley are sown in the fall. WATSON'S *Practical Husbandry* says, "this tillage may be pursued in any country which is not exposed to severe changes of freezing and thawing, which produces heaving of the land; or, when the earth remains covered by snow during the winter."—This would indicate that it is peculiarly subject to *winter-kill*, and that the soil for it should be a well-drained one. The winter barley is beginning to be cultivated in Western New York, but as yet little is known of its adaptation to this region.

In southern Indiana this crop is one of the most profitable. It is sown the last of August or early in September among the standing corn, (so stated by a writer in the Patent Office Report) from one to one and a half bushels per acre, and covered with a light plow or cultivator. Some farmers, when the corn will admit, plow it in one way and cross with the cultivator. The yield is from 40 to 50 bushels per acre. It ripens the last of June, and is used for feeding horses, coarsely ground and mixed with cut barley straw; or fed to fattening hogs, cooked or fermented. The barley fields are used as pastures for colts and calves during the winter, and afford a good supply of excellent fodder.

Some winter barley was sown last fall in this neighborhood; I shall be able to give you some experience in season for next autumn's sowing.—B. S. F.

AGRICULTURAL PAPERS, AND THE DUTY OF FARMERS TO WRITE FOR THEM.

AGRICULTURAL SCIENCE is still in its infancy. "Darkness as darkness itself," hangs over the pathway of him who attempts to explore its fields. In its present stage of development, some of its most important truths are incapable of demonstration. What one approves both in theory and practice, another condemns. Philosophical deductions and practical experience are arrayed against each other. And yet its principles are as fixed in their operation as are the principles of any science; and when they shall have received the careful and philosophical attention which the coming years are destined to bring them, they will be found as demonstrable as are the truths of mathematics.

In attaining so desirable and important a result, we must rely in no small degree upon agricultural papers. It is their peculiar province to awaken inquiry, direct it in proper channels, and stimulate the energies of the laboring masses. That they have accomplished very much in this respect during the last decade, cannot be denied. We are indebted to them to a great extent for the increased attention which has of late been given to agricultural science. But broader and richer fields, sparkling with rarest gems, are opening before them; all the sciences are coming to their aid in clearing away the mists that have so long enveloped the great truths of Agriculture; educated intellect is anxious to pay its *devoirs* to those truths; the best disciplined minds of the age are reckoned in the lists of practical Agriculturists. But whatever offerings science may bring, whatever discoveries she may make, actual experience must attend her *pari passu*.

Upon farmers, therefore, devolves a sort of moral obligation to give to the world, through the medium of agricultural papers, the results of their experience. And, dear farmer, when you experiment let me persuade you to do it with the *utmost care* and *exactness*—thus the *reflex* influence of your experiments will be no small part of the benefit resulting therefrom. When we can bring to bear upon the disputed points of Agricultural science the careful experience of thousands of practical men, we shall have done much towards their settlement, and therefore, much for the benefit of the world. No subject offers a richer reward to patient investigation. SENIOR.

EXPERIMENTS WITH THE CHINESE SUGAR CANE

EDITORS GENESEE FARMER:—On the 5th of May, I planted some seed of the Chinese Sugar Cane, in rows three feet apart. It came up, and I thinned it out to six inches in the row. It grew to the height of eight to ten feet. I fed part of it to my cows and hogs, and they eat it with great avidity. On the 16th of September, I cut 40 stalks, and pressed the juice out by passing them through a pair of tinsmiths' rollers; the produce was seven quarts of juice, which I boiled to one quart of good syrup, or at the rate of 181½ gallons per acre.

I concluded to try it again, in order to determine at what stage of its growth the stalks contain the greatest amount of sugar. On the 23d of October, the seed being fully ripe, and after some light frosts I cut up 60 stalks, stripped off the leaves and pressed the canes as before, but as the rollers are very small, fully ten per cent. of the juice remained in the stalks; I also spilled four or five quarts of the juice. After all mishaps, the result stands thus: weight of 60 canes 102 lbs.; juice 14 quarts; good molasses 5½ pints; dry fodder 4 lbs.; seed 6 quarts. Rate per acre of cane 49,368 lbs.; juice 1,694 gallons; molasses 332 gallons and 3 quarts; dry fodder 1,936 lbs.; seed 90 bushels—good seed weighs 40 lbs. to the bushel.

Farmers keep up your spirits for the sweet times are coming. R. D.—*Deerfield Street, N. Jersey.*

REMARKS.—We are much obliged to our correspondent for the results of his experiments. The Chinese Sugar Cane is attracting considerable attention, and it is desirable to ascertain from careful experiments what are its true merits. There seems to be no doubt that in the Southern States it will prove useful for the production of molasses,—as it has in France for the manufacture of alcohol; but that it will be as useful for this purpose at the North as some

appear to imagine we think inconsistent with the laws of vegetable physiology. However, we hope it will have a fair trial. The experiments detailed above by our correspondent were made on too small a plot of ground, to be perfectly satisfactory. Agricultural journals often contain records of enormous crops obtained in the way adopted by our correspondent in estimating the average production of the Chinese Sugar Cane, but it is well known that no such crops have been, or can be raised, on an acre. We know a gentleman who estimated a crop of potatoes on this principle; he found that he had almost 1,300 bushels per acre, and yet on digging the whole he obtained only 230 bushels per acre. One of our correspondents, some years ago raised an enormous crop of turnips, as follows: The rows were two feet apart, and the turnips one foot apart in the rows. "This gives," said he, "21,780 turnips on an acre. The turnips weighed 10 lbs. each, which makes about 109 tons per acre." The absurdity of such a method of estimating a crop is apparent to all, and yet whenever a new thing comes up, it is frequently adopted. The last Patent Office Report contains an account of an enormous yield of green corn estimated from the weight of two or three of the hills. The product of Dwarf Pear trees is sometimes estimated in the same way, and the enthusiastic cultivator being "afraid to look the figures in the face," reduces them one-half, to meet all contingencies, and then finds that the trees will yield over a thousand dollars per acre annually.—Eds.

DOCKING HORSES A BARBAROUS PRACTICE.

Messrs. Editors:—I was considerably amused, and not a little gratified, to see the "Petition of the Horses," in the November number of the *Farmer*. The evils against horse flesh that are there enumerated are sufficiently plentiful, one would think, to complete the whole category. But there is one ill which horse flesh is heir to, that has not been mentioned; I mean cutting off the tails of horses. Whoever first introduced this barbarous practice deserves to have a monument of braided horse-tails erected to his memory, and a leather medal struck off for every one of his numerous imitators. I have heard it said that the more ridiculous a custom was, the more followers it would find; and in this instance have come to the conclusion that it is about so. Few, now-a-days, especially those who are good judges of horses, like to see a *bob-tailed horse;* yet, there are those who pretend to be great horse fanciers, (and I am sorry to say they are by far the greater portion of the community,) who seem to think that a horse is not thoroughly "got up," until his tail is off.

Sometime ago I was with an acquintance of mine, when a friend from the country drove up to the side of the road with a young horse, which had evidently seen but little service. The animal was a bright bay and had a long tail and mane, and to my mind was about as fine a looking horse as I had seen for many a day. Ah! observed my acquaintance, who was one of the "fast" horse fanciers, what a pity that animal has not his tail cut off; what a remarkably fine horse he would be.

This, I regret to say, appears to be the opinion of nine tenths of the owners of horse flesh,—and as a matter of course, the tails are taken off. But, aside from the looks, is it right to cut off the tails of horses? I say, emphatically, *no!* In the first place, they would never have been put there if they were useless appendages, and who that has the least spark of humanity in his composition, when he sees a horse worried by gnats and flies until he is almost frantic, does not inwardly curse the man who first brought into practice this barbarous fashion? But there is one more argument, and not the least important, against this practice. Cutting off the tails of horses weakens their strength. This is a well known fact, and for this reason, if for no other, the custom should be stopped.

Sometime ago, I read an account of an English gentleman who had a splendid hunter, "Which," the gentleman remarks, "could carry me with ease over a five barred gate." The horse not carrying his tail to suit his owner, he had it taken off, and the consequence was, that it utterly ruined him so far as hunting was concerned; for he could never after leap the smallest fence.

About fifty years ago, it was customary in England to cut off the horses' tails to within two or three inches of the roots; but in our time no one would argue in favor of such *close* docking—This perhaps is owing to our advance in humanity; and who knows but that some genius may yet astound the world by a learned and scientific treatise on the progress of civilization as illustrated by the comparative length of horses' tails. Let us hope, however, that we, as a liberal and enlightened nation, casting aside all "old fogy" notions, will at once cease, and by our example decry, such a useless and cruel custom, and that the time is not many years distant, when a "bob tailed horse" will be as great a novelty as a long tailed one is at present. F A. G.—*Rochester, Dec* 18, '56.

ON RAISING ONIONS.

Large, and superior, onions may be raised by the following process. Let the farmer take his corn cobs after the threshing, and throw them into some bye corner, to rot. After they have become thoroughly rotted, haul them on to the place designed for onions, and let them be thoroughly mixed with the soil. Or they may be thrown into a cauldron and burned, and the ashes scattered on as aforesaid. Then take and mark rows eighteen inches apart, running north and south, to admit the sun, and the free use of the hoe. Papers of seed purchased at the store, labelled large red onions, are the right kind to sow. The seed should be buried one-half or three-fourths of an inch deep, and the soil be well pressed down upon them. The best time to sow is from the 15th to the 30th of April. A top dressing of ashes after the seed has come up, is of especial benefit. The soil may afterwards be kept rich by applications of composition from the stable, henroost, hog pens, &c.

The writer, by this process, has raised onions weighing from 16 to 18 ounces, for the two last years, and received premiums at our Town Fairs therefore; and, I might add, they were far superior in size to any that were shown, and excited the admiration of the spectators. R. Francis, *Virgil, N. Y.*

Would not the crop of onions be just as good without the corn cobs or the ashes of corn cobs?—Eds.

ANOTHER "CHAPTER FROM EXPERIENCE"

Eds. Genesee Farmer:—In the December number you published my account of "Two Crops and how they Paid," one of them a barley crop. I then stated that other fields had done far better, and others still, far worse. As a specimen of the former, I send you a statement of the culture and product of five acres of barley, sown like the other, after corn, but *earlier*, and on land in better heart. The previous crop of corn reached fifty bushels per acre, and was planted after an application of seventy-five loads of barn-yard manure. For barley, we finished plowing the 29th of April, sowing and harrowing in on the 30th. Harvested the middle of July—the product twenty bushels per acre. The account stands as follows:

Dr.	Plowing and harrowing, $2 per day,	$8,00	
	Seed, 12½ bushels, $1,25,	15,63	
	Sowing and harrowing in,	4 37	
	Harvesting,	9.00	
	Threshing and marketing,	7.00	
	Interest on land, $50 per acre,	17,50—	$61,00
Cr.	100 bushels of barley, sold at $1,25,		$125,00
	Profit of the crop,		$64,00

This crop of barley, instead of costing $1,60 per bushel, cost only 61 cents. It was sold at $1,25, the last of August; the other crop is still on hand, and is estimated in the statement at $1,13 per bushel. The seed sown cost one shilling per bushel more than this—having been secured later in the season. One material reason why the product of the crop formerly reported was less, was its ten days later sowing, leaving it exposed to greater injury from the drouth—another was the less favorable soil, both in character and fertility. Here the stronger soil prevented the effects of dry weather in a considerable degree—combined with the greater strength of the plant from earlier sowing.

Barley is now our most profitable crop, and farmers who have land suited to its production will do well to engage in its culture. Give it early sowing, a rich sandy loam, and thorough preparation, and in favorable seasons it will pay 200 per cent profit. I have known several crops to do better than that, in this neighborhood. Sown late, on a poor soil, it yields poorly, and should the season prove unfavorable, entails loss upon the farmer. Of its effect upon the character and productiveness of your farms we have yet to learn; I think, however, in a judicious rotation, it will do them no injury. Succeeding best after well manured corn, it will incite farmers to better care of that crop, to the increase of manure by means of stock feeding, and the gathering of neglected fertilizers. A Young Farmer.

PRODUCTIVENESS OF HEADLANDS.

Messrs. Editors:—"The best swath is always next the fence," said an old man some ten years ago, about the time I commenced farming for myself.—And as I sat reading the remarks of B, Niagara, on "Dead Furrows and Headlands," in the January No. for 1857,—(by the way, a splendid sheet, a whole book of itself, and worth the price of a year's subscription.) I was forcibly struck with the remark, and must state that I have often noticed what "B" speaks of, and as often noticed a still greater difference where the headlands were left loose and mellow. I must, therefore, attribute it to some other cause than tramping,—else why not tramp the whole field? I admit, that some kinds of grain need a more compact soil than others.

As there is a perceptible difference in the grain grown, on the headlands, and other parts of the field, it becomes us as farmers to know why this difference exists.

The reason I shall attempt to give, may be entirely wrong, and if so, I should be pleased if my brother farmers would set me right.

The difference is attributable to the droppings of the farm stock, as they gather near the fence for protection, against the driving storm, or the scorching rays of a noonday-sun; to the decaying fence; to the mice, ground-squirrels, woodchucks, &c., that burrow there, committing depridations upon the standing grain; to the grass suffered to rot in the corners of the fence; to the leaves of the trees and loose straws that are carried by the wind, and deposited there; to the snow bank that melts away and leaves a rich sediment of pulverized earth; to the rain and to the sun as its rays are reflected from the fence; to the careless farmer who suffers his ground to be heaped in this particular spot, to the detriment of the rest of the field; to the plow boy that invariably stops his team there, for a drink, or to have a chat with the boy in the next field. These and many other things, too numerous to mention, contribute their mite to the enrichment of the headland.—J. C. Adams, *Seymour, N. Y.*

DISEASE IN THE FEET OF CATTLE

Editors Genesee Farmer.—Perhaps you are aware there is a complaint among cattle occasionally, in this part of the world, and it may be in many others. I have heard of it in Canada. I do not know the correct name. It is not the hoof ail although it attacks the hind feet of cattle, and, if not arrested, the limb will rot off, up to the second joint of the leg, and the animal must be killed, or it will die—after it has proceeded so far as to be incurable the only way is to knock in the head.

I write this to inform your numerous readers of a cure we have here, although, perhaps, the remedy is generally known. It is to cut off the toes of the hind foot (in which only it appears,) about an inch horizontal, so as to open the foot sufficiently there for the blood to come out; then put the foot in a stocking with plenty of tar at the toe. If taken in time, this will effect a cure. It must be done early, however, when the animal first shows symptoms of the complaint, by a frequent and slight kicking out of the hind foot, as if pricked with something.

I have heard the cause attributed to poisonous hay such as smut. Do you, or any of your correspondents know anything about it? If so, let us have your, or their, experience. Chilton Ford.

Morristown, St. Law. Co., N. Y.

The Sheep Rack, figured in the November number, pleases me very much on trial. There is *no waste* from their treading the fodder into the mud and snow—they eat all clean before them. I would not be without them for twice their cost. I was told that the sheep would fill their necks with chaff in eating out of a rack—but the small depth of mine prevents this, as they cannot pull out hay without "standing from under" the rack. B. H. J.

CARE OF STOCK IN WINTER.

Editors Genesee Farmer.—What farmer is there who has failed to notice the vast difference between stock, whether cattle, sheep or horses, reared by the industrious and careful farmer, and those of a slack and careless man who takes no pains to make his animals comfortable or provide them with shelter? The stock buyer discovers the difference if the farmer does not, and the no small difference in the price paid for a thin, humpbacked, poor, shivering animal, compared with the sum paid for a robust, lively one, will not fail to convince the owner which is the most profitable. Any farmer having more stock than he can keep comfortably through the winter, and keep them as they should be kept, will, if he has foresight enough, embrace a favorable opportunity, and dispose of his surplus in the fall, which he can usually do to advantage at that season of the year, and be enabled by so doing to feed well what he does keep.

Cattle should have shelter from the cold winds and storms so prevalent in this latitude; such undue exposure engenders disease, and will not fail to terminate in the ruin of a good animal.

Young stock feel the effects of such treatment and it is easily detected in their stinted growth, rough hair, and unhealthy appearance, from the effects of which they seldom, if ever, recover. W. Mich.

Cultivation of Beans.—"Young Farmer," in the columns of the *Genesee Farmer*, calls for the experience of agriculturists in bean raising. I give my plan, which is as follows: After having ploughed and harrowed the ground smooth, take a plough and mark light drills, or furrows, two and-a-half or three feet apart; then take Marrowfat beans, which are the best I know for field planting, throw them along in the furrows by hand almost as thick as peas; or at the rate of a bushel, or bushel-and-half, to the acre, remembering to make allowance for the seed worm.—They may be covered with the plough. The best time to plant is from the 25th of May to 15th of June. The Marrowfat is a very early kind; growing and ripening sooner than many other ones. Pull before dead ripe; stack around a pole four or five feet high in single file, roots and tops out, with bits of boards or sticks underneath, to keep them off the ground, with straw on the top. The writer has learned from good authority that a man raised 20 bushels of this kind on one-fourth of an acre.

Beans should be hoed, or cultivated, when dry, as hoeing when wet injures them. If kept clean with the cultivator, hilling them up will be unnecessary.—R. Francis, *Virgil, Cort. Co., N. Y., Dec.* 30.

Racks for Feeding Sheep.—For a flock of fifty sheep, build a shed forty f et long, and twenty feet wide; posts fourteen feet long; double roof; inclose it tight, excepting, of course, doors, &c.; divide it by a floor into two stories; the lower for the sheep and racks; the upper for hay; racks of two boards, eight inches apart, all around the shed—on the inside, of course; instead of drawing a rack full of hay, with a flock of sheep in chase, all over the farm; draw your hay on *wheels*, put it into the shed, in summer; in the winter put it down through the floor into the racks as needed; saving one-fourth of the quantity, and treating your sheep as they deserve to be. D. A. A. N., *Westfield, N. Y.*

Headropes for Cattle.—For the benefit and comfort of those who suffer with cold fingers in tying and untying cattle, I would suggest, that they procure a common breast-snap, a strip of leather six inches long, of sufficient width to fit, and a ring for each.—Rings can be obtained from old harness, bridle bits, &c., or from the blacksmiths. Divide the headrope near the head. Slip a ring on the part that goes around the head or horns, and make it fast. Punch or cut a round hole in each end of the strap, no larger than the rope, pass the leather through the snap and bring the ends together; put the rope, (that is fast to the manger,) through the holes in the strap, and tie a knot in the end. Snap it on to the ring that is tied to the head, and the creature is fast. The cost is about 12½ cents a head. They are much more comfortable for the animal than stanchions, as it can back and move forward, the length of the rope, can look out for a comfortable place to sleep, and lie down in a position, natural and peculiar to itself. Can be loosened or made fast nearly as quick, and *with mittens on.* J. C. Adams, *Seymour, N. Y.*

Seed Corn.—The best method of securing good seed corn, is to select a few stocks from the best part of the field, and husk them about two weeks after cutting, taking care to save the seed ears with a few husks on them, then braid them together in strings of about two dozen ears each, and hang them in a dry cool place, where, if the mice do not molest them, they may hang till Spring, in safety. W. Mich.

SMITHFIELD CLUB CATTLE SHOW.

Our English agricultural exchanges contain full accounts of the Great Smithfield Club Cattle Show. The Club was formed in 1798. The great improvement in the early maturity, and fattening qualities of the British breeds of cattle which has taken place since that time is rightly attributed in a good degree to the influence of the annual exhibitions of this venerable association. The show of stock at the recent exhibition is said to have been a remarkably "even" one. "There was not," says the *Mark Lane Express*, a bad beast in the yard. Turn to what class you would, and nearly all were found developing the best points of the breed in the highest degree."

The first prize of £25, and a Gold Medal, as the best steer or ox, in any of the classes was awarded to a three year old Devon, exhibited by Wm. Heath, of Ludham, also a Silver Medal to the breeder, John Passmore, of Bishop's Nympton, South Moulton.

The first prize of £25, and Silver Medal, as breeder, together with the Gold Medal, as the best heifer or cow, in any of the classes, was awarded to a five year old cow, (which had had two calves,) bred and exhibited by Richard Stratton, of Henton.

The former is said to have been a very complete, well formed animal; his breast-end not sufficiently prominent, twist good, but hips too near.

The latter is pronounced by the *Mark Lane Express*, "the most perfect animal in the yard," beautiful both in color and frame; a deep symmetrical form throughout; head and horns goods, with a very handsome countenance; chine and neck both slightly defective, being rather too fine in proportion to her great frame, but in every other respect nearly perfect; stands wide and is noble looking.

The show of sheep was excellent. The first prize

of £20, and Silver Medal, as breeder, together with Gold Medal, for the best pen of long wooled sheep, in any of the classes, was awarded to GEORGE WALMSLEY, of Rudston, Bridlington, York. They were very superior animals, possessing beautiful forms, very full in almost every point, with admirable looks; their rumps rather short, but hips and loins wide, thighs and legs good, chines broad, plaits remarkably heavy, girth great, necks good and full, with very ample chest, and deep through from chine, stand wide and well; large frames on fine legs; wool fine, and well matched; loins not deeply covered.

The first prize of £20, and a Silver Medal, as breeder, and Gold Medal for the best pen of one year old, (under 23 months,) short wooled sheep, was awarded to the Duke of Richmond.

The *Mark Lane Express* remarks: "The pen is a very superior one. The form of the sheep is nearly perfect, but in some respects they have been slightly improved in appearance by judicious management; their frames are deep and well formed, full, and broad throughout, but they are not very large; they denote good condition, and great inclination to fatten; they have full, broad backs, and loins well covered; their rumps are rather short; but have wide hips, and deep, full thighs and flanks, capital plaits, chines and chest; necks full and short—this is a decided improvement in his Grace's flock; their looks are very handsome, wool heavy, and of excellent quality, offal fine. They surpass those of former years, from his Grace's well-known flock.

"The Lord Walsingham takes second prize, and we think for a pen of equally good, and probably more profitable, sheep, being larger in frame; they are exceedingly good, and prove well under careful examination; they are longer in frame than their competitors, stand rather higher, have wider and as good backs, rumps longer and better, and are heavier animals, with equal quality of mutton; their wool is finer, their necks somewhat too long, and rather thin, looks very handsome and good; frames, as a whole, perhaps not compact enough; offal fine."

Nearly all the pigs shown were of the small breeds. The first prize of £10, and a Silver Medal, as breader, and Gold Medal for the best pen of pigs in any of the classes, above 10 and under 18 months old, was awarded to J. COATE, of Hammoon, for a pen of "Improved Dorset."

The *Mark Lane Express* says, "Mr. Crisp exhibited a very fine sow of the *small breed*, weighing alive 8 cwt. 2 qrs. 8½ lbs. [848½ lbs.] He was offered, in our hearing, £19 10s. [$93.50,] for her by a butcher."

EXPERIMENTS ON SOWING A MIXTURE OF DIFFERENT VARIETIES OF WHEAT.

The *Journal d'Agriculture Practique* contains the results of some exceedingly interesting experiments made by M. LUCIEN ROUSSEAN, of Augerville, France, with a view to ascertain which of several good sorts of wheat was best adopted to the soil and climate of his district. Fifteen of the best varieties of wheat were chosen for the experiment—grain tender and light and the straw soft and light colored. It is of little interest to us to known which of these fifteen kinds gave the best results, but one principle of great practical importance was illicited, which is as applicable in this country, as in France. On one plot a mixture of all the fifteen varieties of wheat was sown, *and this plot, produced much the best crop.*

The following remarks of M. ROUSSEAU, in relation to this result will be read with interest:

"Now, how came it that mixed wheat was the finest? All the varieties do not ear at the same time; and is not this an advantage to the earing of those kinds which, stifled if they are alone and too thick, cannot get up or consequently ripen? The mere fact that the ears do not appear at once necessarily prolongs the time of flowering, and no doubt increases the chances of good impregnation; for if the first flower which has lost its pollen has not been fertilized, owing to the badness of the weather, it may still be capable of being impregnated by the pollen from a later ear. Another advantage seems to result from this want of simultaneous earing and unequal length of stem in mixed wheat; and that is that the ears being less crowded get more light and air, and their flowers can consequently more easily expand, and are thereby alone rendered more fit for impregnation. This accords with what we find in practice, for wheat which is a little thin is generally better fertilized than that which is too thick.

"This hypothesis of more easy impregnation naturally leads to the supposition of better maturity, and the examples furnished by meslins of wheat and rye, of barley and spring wheat, seem to confirm the notion. We find in these mixtures that each grain is generally much finer than the grain of the same kind of wheat grown unmixed. Is not this owing to the fact that the ears, not being all on one level, are more free, afford more protection to each other, and derive more advantage from light, and so escape that early ripeness which we call scorching? Scorching, which is so common with very full wheat, arises from the formation by the ears of a compact mass not traversable by the sun's rays, which are reflected from the surface, and thus ripen the ear without penetrating to or ripening the root, as is indispensable to perfect cultivation. In mixtures again, may not crosses be obtained, which, under favorable circumstances, may lead to new and valuable varieties?

"In a practical point of view, one of the greatest advantages in sowing mixtures, is the removal of all uncertainty as to the particular kind it will be best to select. For even if in a mixture of 15 sorts, three or four are not adapted to the soil and climate, the spaces which will be left by them will be readily filled by the other sorts, and even if some of these should be bad, coarse, and not fruitful, they will still be useful as a protection to the weaker and later kinds."

THESE experiments are confirmed by results obtained in England, with what is known as the "Fenton White Wheat," a variety originating as follows: About eleven years ago, a plant of wheat bearing three ears on a remarkable stiff and short straw was pulled by Mr. GEORGE HOPE, of Fenton Barns, E. Lothian, Scotland, out of a quarry in his farm, on the *debris* of which it had accidentally grown. The grains which these ears contained on being sown for a few successive years produced enough to seed a field; and as the wheat retained during that time the characters which distinguished it at first, Mr. HOPE sent it into the market as a new variety, and it is now known in every part of Great Britain. It is characterized by a moderately large ear of even shape on a straw not only remarkably short, but remarkably various in length. The consequence of this latter peculiarity is that its yield of grain generally exceeds the expectation formed of it by those who see it before harvest for the first time. This abundant yield is no doubt the result of the distribution of the ears through

various heights above the land; there is not that crowding of them which there would be if they stood all on one level. And this one sort accordingly exhibits in itself a result which can be obtained in other cases only by mixing two or three sorts together which grow straw of various lengths.

NOTES FOR THE MONTH BY S. W.

The Weather and Fuel.—December was the coldest and most snowy December we have had since 1825; the mercury fell one night to 6 degrees below zero, which is very unusual in this lake warmed region. Night before last it again fell to zero, and last night, 7th January, it was 8° above; which is very cold winter weather for this region. The outlet is now dammed at the lake by anchor ice, and our mills are short of a full supply of water. But thanks to the antediluvian age of carbonic acid gas, which made both ferns and trees grow, like Jonah's gourd, to form coal for subsequent man, we are now blessed with Pennsylvania anthracite from Ithaca and Elmira, at the cheap price of $4,50 to $5,25 the ton, to the evident dismay of the woodseller, who has heretofore had it all his own way. Despite the severe cold weather, our lemon tree is thus early in full bloom, with some incipient fruit, as if to give a beautiful and fragrant acknowledgement to the all quickening anthracite.

Sorghum Saccharatum.—The *Bulletin d'Acclimatation* of Paris, has a notice in its September number of the North China *Sorgho a Sucre*, or Sugar Millet, from the pen of Dr. Turrel, Secretary of the Agricultural Committee of Toulon; he says that in the vine growing proprietaries in that region, the juice of the Sorgho has been profitably mixed and fermented with the juice of the grape, and without impairing the flavor of the wine produced. He, also, speaks of another species of Sorgho to which Leopold Wray gives the name of *Sorgho at 'Imphy*, or Sorghum of the Caffres; it is an earlier variety than the Chinese, and its cereal product is more abundant; hence M. Nayot who grows it successfully at Martinique, says that the grain is there ground into flour which is more nutritive than rice, and is preferred by the Coolies there to rice, as palatable food; its leaves also make an abundant and excellent forage, and the juice of the canes, the best of rum, (*tafia.*)

French Agricultural Journals.—The *Agriculture Pratique*, of the 5th August, contains the following summary articles. The Absorption of Azote, (Ammonia,) by Plants, Editorial. Letter from the Emperor on the late inundations. Cattle market of London. Merino's at the great National Show of 1856. Secretion of Ozone by plants. Experiments on the comparative merit of Beets, for Sugar and Alcohol. Great Agricultural Show at Chelmsford, Eng. Agricultural tour in France in 1854 among the Pyrenees; The Maratime Pine. The bovine race of Brittany and its antecedents. Remarks in the Galine broods at the World's Agricultural Show.—Agricultural summary by the conducting Editor, J. A. Barral, for the last two weeks of July. Essay on the harvesting; machines exhibited at the Universal Show of 1856 at Paris; Ergot in Wheat. Commercial review, &c., with fine wood engravings of *Pinus Maritimus*, cane and leaf; Prize Cow of Brittany, exhibited at Universal Show of 1855; Bull Breton, ditto; Plan of a Park for Fowls, a birds eye view of the same completed, &c., &c.

Editor Barral's remarks on the absorption of Azote by plants from dew and rain, is only intended as an endorsement of that theory, based as it is on the discoveries of Bergman, de Saussure, Boussingault, Liebig, and others. The article on the absorption of ozone by plants is from the pen of M. Scontetten, Chief Surgeon of the Hospital at Mentz.—The Editor significantly remarks that many physician chemists have labored like M. Scontetten; and although he admits all the results claimed by the learned author, he still demurs to their consequent importance to vegetable physiology; he also omits for the present the physiological *expose* which terminates Scontetten's article, waiting for experiments to verify his conclusions. The Editor ends his remarks by saying that as the learned physician of the Military Hospital of Mentz, does not dispute that plants placed in Seltree water give off considerable oxygen during day light, he should certainly pardon the reviewer for adjourning his theory, if he accepted his facts.

Agricultural progress in France has, undoubtedly, been stimulated by the Great Expositions at London and Paris. The Imperial Government has taken hold of the matter in earnest; regional fairs are established in the departments, the number of these fairs for 1857, are eight; to be increased to ten in 1858. The fairs, (*Concours,*) are to be held three days; and the highest prize, (*prime d' honneur,*) at each fair, is to be five thousand francs, wi h a silver cup to the value of 3,000. S. W.—*Waterloo, January* 10, 1856.

Cheap Board Fence.—The following will be found to be a cheap and lasting fence: Posts six feet long, holes dug 15 or 18 inches deep; then have the posts set in and well rammed. Next, throw up an embankment at least two feet high; this will make a narrow ditch as deep as the foot of the posts, thereby preventing decay. It will also drain the land considerably. Two boards—one a foot wide, the other eight inches, with a cap-board four inches wide, on top, will be high enough for a common fence. It can be easily seen that a fence made in this way will last longer than any other fence made of wood, and the first cost is but little more than a common zig-zag rail fence. R. W. S.—*Canada West.*

A Cheap Fence.—Being short of rail timber, and hedges require so much labor and patience, I have tried the following method of economizing, with perfect success. Plow and shovel up a ridge six feet wide and two feet high; then lay stones or blocks for the ends of the rails to set on, a foot thick or more; this makes it 3 feet high to the rail. Four rails high with poles along the middle well locked or staked, make it as high as eight or nine in the ordinary way. It should be well banked up to the bottom rail, and seeded down to grass. Hogs cannot get a foothold to creep through, neither can cattle knock it down or jump over, as the shoveling leaves a deep furrow on each side.

Condition Powders for Horses.—Take equal parts pulverized gentian, elecampane, ginger, and wild turnip. Horses troubled with cold or heaves should have a tablespoonful each day.

DEVON BULL PURITAN (283).

"PURITAN," the property of Hon. John Wentworth, of Chicago, Ill., was bred by Col. L. G. Morris, of Fordham, N. Y. Calved Dec. 8th, 1853. Got by Frank Quartley (205); dam Virtue (469); g. d. Virgin (468); g. g. d., Violet (467.)

"At our late visit to the farm of the Illinois Breeding Association, at Summit, Cook county, Ill.," says the editor of the Boston Cultivator, Sanford Howard, "we saw, among other fine stock, "Puritan," whose figure is above given. We had not seen him before since he left Fordham. He is a compact animal, with very short legs, a good handler, and, with the exception of some superfluous leather about the neck, and a slight coarseness of the head, is very handsome. Mr. Wentworth showed us several of his calves, which partake strikingly of the Devon characteristics."

A MARK OF PROGRESS.—*Porter's Spirit of the Times*, a journal devoted, as our readers are aware, "to Field Sports, the Turf and the Stage," has frequently congratulated the country on the happy fashion just now so prevalent, of ladies' riding at our County, and some even of our State Agricultural Shows. It last week furnishes a striking example of the progress thus effected toward achieving what it considers the aim and tendency of this Female Equestrianship, viz: to "*help make racing a national sport.*" Agreeing entirely, as we do, in this view of the probable result of such exhibitions, we cannot neglect to chronicle all the steps taken toward its accomplishment. The one in question is as follows: A challenge for a match of horses recently appeared in the paper above quoted, from a *lady*, who has found several equally "spunky" dames and damsels to accept it—about one of the latter of whom we now receive the information below:

"Three times has she been a victor at the trotting courses of the Agricultural Fairs; on one of which occasions she, (at Canandaigua,) drove a black Morgan stallion, in harness, in the slashing time of 2.38.—This lady desires us to say to Di Vernon, that she is indifferent whether the trial be in running, steeplechasing, or in trotting; and if in running, is willing to go in either one or four mile heats."

According to present probabilities, the Union course, which has already been the scene of so many similarly refined and ennobling contests, will shortly "behold two beautiful and high-spirited women, mounted on blooded running horses, flying through a four mile heat!" With *Porter's Spirit*, "we confess to no little interest in this business." *Are* our mothers, wives and sisters to be engaged in thus drawing the country "a few inches nearer the millennium" of the turf and its accompaniments?—*Country Gentleman.*

QUARTER-ILL IN CATTLE.—A correspondent writes us that this fatal disease is quite prevalent in some parts of the west at this time, and asks for a remedy. It usually attacks young animals, such as yearling heifers, and is frequtly caused by lying on a cold, damp soil. Animals quite well the previous evening, are sometimes found dead in the morning. At other times they are found with one quarter much swollen, attended with considerable lameness. The course indicated is to bleed in the first instance, unless the pulse is feeble; but, previous to this, a diffusable stimulant should oe administered, such as two ounces of spirits of nitrous ether, with a drachm of camphor, and given with warm gruel or water. The part should be well fomented with hot water. The other variety of the disease may be ascribed to a sudden change from poor winter food to rich and luxuriant pasture, which greatly increases the supply of blood. It often attacks two-year-old cattle, and is most prevalent in the spring. Bleeding largely should be practised as soon as possible; after which the bowels should be opened, and the part well fomented.

TO KEEP MEAT FRESH AND SWEET.—Take a box or barrel, put in a layer of snow and a layer of meat, until all is in and covered; then set it in a cold place, where it freezes a little. Meat packed thus will keep from November to April, and be as fresh, and more tender than when just killed.

MANY are great because their associates are small.

Horticultural Department.

ANNUAL MEETING OF THE WESTERN NEW YORK FRUIT-GROWERS' ASSOCIATION.

The Annual Meeting of the Fruit-Growers' Association of Western New York, was held in this city January 7th. There was a good attendance, and the Association bids fair to be one of great interest and usefulness. The exhibition of fruit, owing to the failure of the apple crop last year, was rather meagre. Messrs. Ellwanger & Barry made a fine show of winter pears, and there were several good collections of apples, grapes, &c. The following officers were elected, or rather re-elected, for the ensuing year:

President—John J. Thomas, Union Springs.

Vice-Presidents—H. P. Norton, Brockport; Asa Rowe, Sweden; E. C. Frost, Catharine.

Secretaries—J. B. Eaton, Buffalo; H. E. Hooker, Rochester.

Treasurer—W. P. Townsend, Lockport.

Executive Committee—P. Barry, Rochester; T. C. Maxwell, Geneva; H. E. Dickerson, Lyons; W. B. Smith, Syracuse; P. R. Freoff, Auburn.

Committee on Native Fruits—P. Barry, Rochester; Thos. Smith, Geneva; S. H. Ainsworth, West Bloomfield; A. Loomis, Byron; E. C. Frost, Catharine, Schuyler Co.

Committee on Foreign Fruits—Geo. Ellwanger, Rochester; T. C. Maxwell, Geneva; I. C. Hanchett, Syracuse; J. J. Thomas, Union Springs; Edward Frost, Rochester.

Committee on Nomenclature—B. Hodge, Buffalo; W. P. Townsend, Lockport; J. B. Eaton, Buffalo; Joseph Frost, Rochester; J. J. Thomas, Union Springs.

COUNTY COMMITTEES.

P. Barry, of Rochester, General Chairman.

Monroe—H. E. Hooker, Rochester; Austin Pinney, Clarkson; Zera Burr, Perinton.

Erie—John B. Eaton, Col. B. Hodge, W. R. Coppock, Buffalo.

Niagara—W. P. Townsend, C. L. Hoag, H. L. Burrall, Lockport.

Cattaraugus—Spencer Scudder, Randolph; Hon. F. S. Martin, Olean; J. C. Devereux, Ellicottville.

Cayuga—Dr. A. Thompson, Aurora; John Morse, Cayuga; P. R. Freeoff, Auburn.

Genesee—A. Loomis, Byron; Col. H. U. Soper, Batavia; R. B. Warren, Alabama.

Ontario—T. C. Maxwell, Geneva; S. H. Ainsworth, Bloomfield; E. S. Smith, Geneva.

Yates—Charles Lee, H. Olin, Penn Yan; Isaac Hildreth, Big Stream Point.

Tompkins—James McLallen, Trumansburg; James M. Mattison, Jacksonville; Anson Braman, Ithaca.

Wayne—T. G. Yeomans, Walworth; John J. Thomas, Union Springs; M. Mackie, Clyde; E. W. Herendeen, Union Springs.

Onondaga—W. B. Smith, Syracuse; Mr. Hamlin, Clay; E. P. Hopkins, Onondaga.

Chautauque—Lincoln Fay, E. S. Bartholomew, Portland; A. H. Moss.

Orleans—S. Burroughs, Medina.

Wyoming—Hugh T. Brooks, Pearl Creek.

Allegany—Ransom Lloyd, Angelica; William Howe, North Almond; John Atherton, Philipsville.

Livingston—M. Colby, Nunda; J. R. Murray, Mount Morris; Rev. F. D. W. Ward, Geneseo.

Steuben—Judge Denniston, William B. Pratt, Prattsburg; R. B. Van Valkenburgh, Bath.

Seneca—H. C. Silsby, William Langworthy, Seneca Falls; George Dunlap, Ovid.

Chemung—Harvey Luce, Elmira; George W. Buck, Chemung; Albert Owen, Big Flatts.

Schuyler—E. C. Frost, Catharine; John Woodard, North Hector; Dr. Nelson Winton, Havana.

Owego—S. Worden, Minetto; A. Stone, S. S. Gillett, Hinmansville.

Tioga—George J. Pumpelly, Owego; John S. Nichols, Spencer.

Cortland—P. Barber, Homer; Nathan Boughton, Virgil; B. J. Campbell.

Messrs. Barry, Ryan and Harris were appointed a committee to prepare business for the meeting, and reported the following subjects for discussion, which were adopted:

1. Small Fruits—Which of them can be grown on an extensive scale profitably?
2. Shelter of Orchards and Fruit Gardens—Is it important, and if so, what trees, plants and shrubs are most suitable, and what form of plantation?
3. Hardy Grapes—Can their culture, in the open air, be made profitable?
4. Is it better to top graft old apple trees, or to plant new ones?
5. Is it a good practice to renew peach trees by heading them down?
6. Winter Pears—Can they be grown profitably?

SMALL FRUITS.

The Currant—Mr. Barry, of Rochester, said the currant was seldom cultivated properly. The common White and Red Dutch were greatly improved by proper training and manuring. In reply to an inquiry, he said there were several new varieties that were a decided acquisition. He mentioned the White Grape, Cherry, and Victoria,—the latter valuable on account of its lateness. He thought the cultivation of the currant might be safely recommended to farmers—it bears transportation to market without injury, grows well on all soils, and requires little care and cultivation. Good crops, by good management, could be obtained in one year from cuttings.

Mr. Ellwanger, of Rochester, presented some wine made from the White Grape currant this fall, which was, for its age, really excellent.

Dr. Long, of Rochester, found *port wine*, made from Black currants, very useful for medicinal purposes. When three or four years old, it was as good as any port wine he could obtain.

Mr. Barry was informed that large quantities of black currants were bought in New York for the purpose of making *port* wine.

The Raspberry—H. E. Hooker, of Rochester, said the best kinds would not bear transportation, as they soon lost their flavor, and had to be picked every day. He found the common Black Cap, with good cultivation, the most profitable variety for market.

Col. Hodge, of Buffalo, agreed with Mr. Hooker. The Antwerps had to be covered in winter at much labor and expense. He thought that the Black Caps might be greatly improved, and would then be best suited to one's wants. He, also, spoke highly of the Allen Raspberry, a native variety cultivated by L. F. Allen, and others, at Black Rock, N. Y.

Mr. Barry thought that in this part of the country, near large cities, the Red Antwerp was the best, as it always yielded good crops. They always bend the canes down in the fall, and cover them slightly—it was but little trouble. For delicacy of flavor the Black Cap could not compare with the Red Antwerp. Some new varieties, such as *Brinckle's Orange* would sell for four times as much as the common kinds.

Mr. Hooker found that the grocers always preferred the common to the Red and Yellow Antwerps, and always purchased them first, they were extensively used for cooking and preserving.

Dr. Roach said that the first man who commenced raising raspberries near Geneva, N. Y., could only get eight cents per quart, but when many had gone into the business, the price rose to from twelve to fifteen cents per quart.

The Gooseberry.—Mr. Hooker thought the Gooseberry very profitable on his grounds. Some that he sold in this city, brought the large price of eighteen cents per quart—a man might make, he thought, an independent fortune at that price.

Mr. Ellwanger said that some kinds, such as the Crown Bob, Whitesmith, and Houghton's Seedling, seldom mildew.

Mr. Hooker said that he planted his bushes first on sandy ground, and found that they invariably mildewed—when he removed them to a clayey soil, and they were entirely free from it. He said that those on the clayey soil were shaded some, while those on the sandy soil were entirely exposed to the sun.

Col. Hodge, of Buffalo, found in 20 or 30 kinds, that in two or three years they were always destroyed; even on clay, they would in time mildew, and he thought that the English kinds could not on this account be recommended. It would to be sure have a tendency to prevent mildewing if they were transplanted every three or four years, and that with severe pruning the damage might be considerably reduced. Fully one-half of the vines ought to be taken off every year.

Mr. Barry said that the English Gooseberries ought to have a cool soil—that was the reason why they grew so well in England. They succeeded near Chicago for the same reason; as, also, in Canada East, Maine, and the northern counties of this State. Some persons near this city had no difficulty with them.

R. B. Warren, of Alabama, Genesee Co., had had good success in cultivating the Gooseberry on light, sandy soil. He planted on the north side of a board fence.

SHELTER FOR ORCHARDS AND FRUIT GARDENS.

Col. Hodge, of Buffalo, thought this a very important subject. Peaches could not be raised around Buffalo, not because of the cold as was generally supposed, but because of the bleak winds from the Lake. At the lower end of Grand Island is a tract of land called Peach Haven. It is protected from the west winds by a natural forest. There the peach succeeds well.

He invariably found in his travels that situations protected from cold winds always produced much better than exposed ones. The best kind of screen for protection to fruit trees, is the Norway Spruce. It grows rapidly, and is used extensively in Boston, both for its protection, and as an ornament. The wind which does the most injury, is the west wind—next, the north and north-west.

Mr. Burtis, of Rochester, would plant an orchard on the coldest, bleakest hill he could find, the fruit buds were usually killed in the spring, and the object should be to keep back vegetation as late as possible. He never feared for peach trees in winter unless the thermometer sunk more than 12 below zero. He thought trees needed shelter, but should be planted on elevated places.

Mr. B. Fish, of Rochester, thought the buds were killed in winter—never in spring; he had seen water frozen in the blossoms in the spring, and yet the trees bore a good crop of fruit.

Dr. Roach, of Ontario County, had two orchards, one of 300 trees is exposed to the west winds. The other of 100 trees in a sheltered situation—from the former he obtained three pecks of fruit, from the latter 150 baskets. The outside trees yielded the least fruit.

Mr. Stone, of Hinmanville, Oswego County, had noticed that old orchards with thick tops, bear fruit when younger trees would not; and that trees usually do best on hills.

Mr. Barry had found in all his reading and experience, that shelter was necessary—animals needed it—everything tender needed it. During the late severe winters hemlock trees were killed on the west side, and the hardy privet hedges were frequently killed on their western exposure. It was not remarkable then that tender fruit trees should need protection. On their grounds, part of their pear trees were exposed; on these they seldom obtained much fruit; while on the remainder, which were sheltered, fine crops were produced. He thought that the Norway Spruce was the best for protection,—though the European Larch was also very good.

Col. Hodge said, if he were setting out an orchard, he would, if he could, have a forest all around it.

H. N. Langworthy, of Rochester, had found that for peaches, the west and east exposures yielded but little fruit. He thought that the cold and frost did not do much harm while the fruit was in bloom; but that afterwards, when it was larger, the cold wind killed it.

Dr. Roach thought the best way was to plant high and then protect by trees.

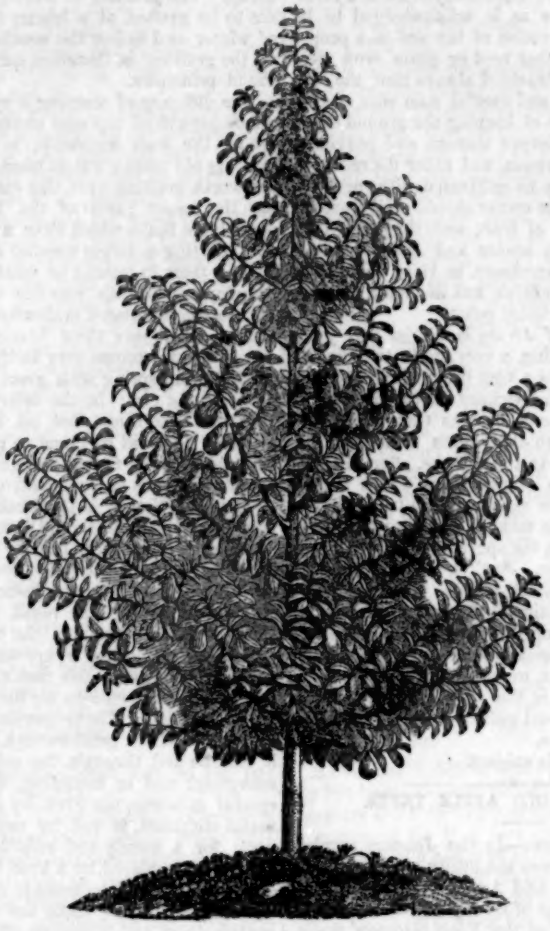
Hardy Grapes.—H. N. Langworthy had often observed the best grapes were produced where vines had run up high on some apple or other trees. He argued from this that sun was not particularly needed to ripen the grape—it needed warm air. They seldom mildewed on trees.

Mr. Burtis said the best grapes he ever saw, grew in Philadelphia, on tall vines by the sides of houses, and he was of opinion that they would grow best on tall trees.

Mr. Barry thought that grapes needed heat; if he were to plant a vineyard, he would plant the vines on the south side of a tight board fence, to secure more heat. Mr. McKay, of Naples, Ontario County, had succeeded perfectly in raising grapes, and as there were gentlemen present who were well acquainted with Mr. McKay's process, he hoped they would favor the society with a description of his method.

[To be Continued.]

Tomato plants, for early fruiting, may be raise very early by sowing a few seeds in a large flowe pot, or small box, in good rich soil.



DWARF PEAR TREE.

Drawn from a *Louise bonne de Jersey*, growing on the Quince stock, in the grounds of a successful amateur cultivator, in this city.

SELECT PEARS ON THE QUINCE STOCK.

Much difference of opinion prevails, and frequent discussions take place among planters of fruit trees, on the subject of pear culture. Even experienced cultivators are not always unanimous in their decision, on certain important questions submitted to them by the professedly inexperienced amateur. When we take into account the attention which has been devoted to this branch of fruit culture, for the past few years, we might reasonably expect to find matters a little better understood with respect to certain debated points. But on the other hand, when we estimate the small amount of really practical knowledge which is brought to bear on these disputed points, and how much more importance is attached to the dicta of a few influential persons, who having themselves taken a partial view of the subject, from an unfavorable point, labor to direct the observation of others in the same unfavorable direction, we cannot feel so much disappointed at the result as we should have done, had the facts been permitted to speak, and the experience of less ostentateous witnesses been weighed against the high sounding, and dogmatical assertions of those who are generally found to deal in extremes. The spread of horticultural knowledge is a great desideratum, but we fear if horticultural writers continue to multiply as they have done within a few years back, the information imparted will be of but little value. Our object now is to show that certain varieties of pear may be successfully and profitably cultivated on the quince stock, provided certain conditions are complied with; and, lest we should say too much at one time, we propose to take the varieties singly.

The *Louise Bonne of Jersey* may be cultivated with success, on the true Angers quince, in a moderately heavy loam, or at least on such soils as are acknowledged to be favorable to the growth of the quince, provided the subsoil be thoroughly drained

and the surface soil kept mellow by the use of the cultivator with the addition annually of such a dressing of suitable manure as is acknowledged to be necessary for the preservation of the soil in a proper condition in case any other root or grain crop were to be taken from it. Provided always that the cultivator is an intelligent and careful man who attends to the necessary routine of keeping the ground clean, pruning the trees in a proper manner, and providing against the attack of vermin, and other depredators.

That this variety may be cultivated with profit, it is also necessary that the owner should make provision for the marketing of fruit, and that the fruit should be picked in due season and house ripened, having a market, or purchaser, in view, to receive them when in good condition, and in such a community as can appreciate choice pears.

The *Louise Bonne of Jersey* is a large and juicy pear, sub acid and melting, a very productive bearer on the quince, as well as a very ornamental and vigorous tree; ripens in this vicinity about the last of September. Healthy trees, such as that in the annexed cut, of from six to eight years from the bud, will produce from two to three pecks, after thinning about two-thirds of the original crop, which should be done to preserve the vigor of the tree. If the whole crop is allowed to remain, the tree would bear more than a bushel, but the specimens would prove inferior in size and flavor. Such trees may stand at 10 feet apart, or at least 400 trees to the acre.

Making a very low estimate from the actual produce of such trees, during the past season, and allowing for cost of trees, annual labor, and rent of land, with other contingencies, we could show that a small profit could be realised in the sixth year, and each succeeding year, an annual gain of from three to five hundred dollars per acre.

We shall continue this subject.

RE-GRAFTING OLD APPLE TREES.

Eds. Genesee Farmer:—In the January number of your journal you discuss the utility and the practicability of "Improving Old Apple Orchards," and as the same subject in some of its aspects was discussed at the Annual Meeting of the Fruit Growers' Society, on the 7th inst., with interest and profit to the Convention, I wish to add a few words to what has already been said; more for the sake of gathering up what seems to be the combined experience of our best cultivators and experimenters, than for the sake of adding anything new to what has been set forth.

It is evident from the results brought before the meeting that thrifty, vigorous young apple trees, not more than twenty or thirty years old, can always be made profitable by grafting with the best standard varieties of *free growing* or vigorous varieties. The new tops formed by judicious grafting will become abundantly productive in five years, bearing at that age nearly or quite as much as a tree twenty years from the first transplanting.

Success in grafting over trees of this age is best secured by grafting quite early in the season; for the reason that after the circulation of sap becomes very active in the tree, the check produced by amputation of large limbs is so great that injury and stagnation to the force of the tree is the consequence. In early grafting, vigorous young sprouts are secured, which, together with the scions inserted, keep up a healthy flow of sap, and secure the old wood from death and decay. The practice of sawing off the limbs which are to be grafted, at a leisure time in the latter part of winter, and before the weather is warm enough to do the grafting, is, therefore, quite in accordance with sound principles.

The difficulty of securing a symmetrical form and a new growth of top near enough to the ground to render the fruit accessible, is often urged against grafting old trees; but in most instances where trees are worth grafting over, this can be secured by grafting the upper parts of the tree first, cutting off quite large limbs which have a vigorous flow of sap, and inserting a larger number of scions upon them, *cutting* them in instead of splitting the stock, if it is *very* large. By this practice the force of the tree for the coming season is directed into the lower and weaker branches; these branches will, by this increase of sap, become very thrifty, and can be grafted the following spring with great care and success; by inserting the graft in the lower limbs farther from the trunk than those first set in the upper parts of the tree, they will be found to grow rapidly, and, not being shaded by the upper ones, they will soon be equally vigorous and productive.

The idea that it is practicable to renovate an old tree by cutting it back and thus securing some vigorous sprouts with large healthy leaves, whilst the soil about the roots is allowed to remain uncultivated and unenriched by strong and lasting manures, is inconsistent with facts. The result produced is simply to cause what life there is in the whole tree to be expended in a "course of sprouts,' which, in another year become more feeble than the old limbs were, and the tree, galvanized into life for a time, falls into incurable decline. The proper course is, when the vigor of the tree is not great enough, to *feed* it where only it can be fed, through the soil, by cultivation and manuring; and in manuring, do not be misled by *special manures*, nor even by guano, which, altho' a useful stimulant, is not by any means to be relied upon for a steady and reliable fertilizer. The best fertilizers are placed by a kind Providence directly in our way, and, as if to make it certain that we should use them, most of them are utterly worthless for anything else, and in fact an offence to us. We can, then, scarcely go amiss in plowing in all the nuisances about our farms; and thus, while we purify the homestead we are increasing the harvest; we can scarcely give the orchardist a better receipt for renovating his orchard than by saying to him, "follow your nose."

Another inducement for grafting over trees of considerable age, is, that many of those old orchards of natural fruit occupy the positions which are most desirable for such purposes. There are many farms upon which suitable soil can be had only in limited quantity, and none but such soil is valuable for orcharding; if this be occupied, we have no choice but to graft the standing trees. A young orchard planted among the old trees will never flourish, nor will it do well if the old trees be cut down, until some years of time, and care in plowing, manuring, &c., have restored to the soil its original fertility; the site of an old orchard is one of the worst places for a young one, whilst it may be very productive of grain or grass.

Many of the orchards which were productive and vigorous a few years since, have now become unprofitable, simply because they have become too

dense, the growing tops and roots having completely filled up the spaces allotted to each. Such orchards should be thinned out, grubbing up every other row running north and south, and liberally manuring the whole ground; grafting over such trees without thinning will not do.

There are also many apple orchards which never have paid and never will pay for the ground they occupy. If the soil is cold, wet, and with a hard pan bottom, no amount of manuring, or grafting, or pruning can ever make them valuable. The original selection of a location was not good, and grafting on other varieties will not remedy the evil. In such cases, plant a young orchard immediately upon a piece of rich land with a dry, gravelly, or otherwise well-drained subsoil, and proceed to make experiments upon your orchard upon the wet land with drain tiles, and communicate the result to the *Genesee Farmer*. If you succeed in producing uniform crops of fair apples upon such a soil, the experiments will make your name immortal.

There is a limit to the durability of apple orchards, and some of the old ones have already passed beyond the time when to graft them would be of any use, and manuring or cultivating them is scarcely worth while, the fruit being poor at best. As soon as the places of these declining patriarchs can be supplied, let them be cut down, unless their shadows are precious to the porch or the walk, they are not worth preserving.

The passing away of these old trees is sure proof that we must continually plant new ones if we and our children would always have some trees in their prime, and no improvement of old orchards should prevent the planting of young ones to supply the present and rapidly increasing demand for good fruit.

It is surprising that intelligent men do not pay more attention to the condition in which their orchards are maintained. There are many farms upon which the farmer receives more annual profit from a single tree of the Rhode Island Greening than from an acre of grain; and yet he does not take the trouble to see that his trees are properly managed or pruned, paying least attention to the most profitable part of the farm. This is a degree of folly which we are persuaded will not last forever in this age of newspapers. H. E. H.—*Rochester, Jan.* 14, 1857.

HORTICULTURAL OPERATIONS FOR FEBRUARY.

The greater portion of this month will be taken up in making preparations for the coming busy month of March.

Hot-bed frames and sashes should be brought out, where not done last month, and washed clean; the broken glass, if any, taken out and replaced by whole squares. Let the putty be made good, in every part; and all carefully painted. I have always observed that where a square of glass is cracked and the putty in bad condition, though thought to be sufficiently strong to last through another season, it is sure to drop out just at the very worst time,—when the young and tender plants are most tender, and when we have the worst weather to contend with; such as cold, cutting, sleety, wet and windy weather, (latter part of March, and beginning of April,) and, consequently, when we have to use the greatest quantity of heavy wet litter, or garden mats to cover the glass with, at night; the throwing on and pulling off, of which, is usually the cause of these cracked squares being pulled out.

How rarely do we see proper, and sufficent covering for hot-bed frames and pits. Where there is one gardener who has oiled canvass or tarpaulin to cover his glass with, there are an hundred who have nothing better than garden mats or stable litter. However, when we have not tarpaulin or straw mats, we must use the next best thing, which is, perhaps, stable litter. Its advantages, over mats, are that we can put on thicker covering; the straws, being hollow, contain a body of air which acts as a non-conductor, although, when saturated with snow and rain, a very poor one I must confess. Its disadvantages are that we cannot use litter without having a great deal of dust and dirt, which shakes through the litter to the glass, and is sucked in the laps and under the putty, there to absorbe and retain water, which causes leakage, and rots out the putty. Mats are clean, and, when dry, can be rolled on and off with little trouble; but in wet weather they absorb every drop of water, that falls upon them, and then lie so close together, and to the glass that they are almost useless by conducting the heat out of the bed.

Another grievance is that they have to be hung up to dry every time they get wet; and come out at night, sometimes frozen as stiff as boards, and all shapes the straightning of which breaks the mats and glass too. With the tarpaulin we can throw on a little dry litter to be covered by it, which keeps the litter dry, and admits of a stratum of air, in (than which there is no better non-conductor known,) between the glass and the tarpaulin. If the tarpaulin be oiled, or tarred, once a year, it will last many years.

About the middle of the month, prepare for making hot-beds; this will be early enough, except where there are brick forcing pits and abundance of manure at command, for it is very difficult to keep up a sufficient heat in a common hot-bed before this time.—Let the manure be well shaken and mixed, and thrown into a heap to ferment. In five or six days turn it again, and, if dry, water it. Let it be in some sheltered place, if covered with boards, it will ferment more regularly.

The pruning of hardy vines should now be attended to, where not done sooner. When left later than this month, they are apt to bleed, and, though it may not be permanently injurious, it cannot do any good, and may as well be avoided.

Gooseberry trees may be pruned. Gooseberries bear upon the young, as well as the old wood. All the little twiggy pieces in the body of the tree, should be cut out to one or two buds in the length which will form permanent fruit spurs. Where the trees are wanted to increase in size, the leading shoots of young wood can be cut back to five or six inches in length. Any decayed branches should be cut clean out, and young ones trained in their places.

Currants may be pruned as above, but they bear mostly upon wood of two years growth or more; all the fruit-bearing spurs, upon the main branches, therefore, must be carefully preserved; to increase them, set out the young wood on the main branches, to one or two buds in length. Currant trees should always be trained on a stem, at least one foot in height, and the main branches kept about one foot

apart, and tied to a stake. The suckers must be all carefully cut away.

Prepare for planting trees by digging the holes whenever it can be done. Let the holes be large and ample for whatever sized trees you intend to plant. If the subsoil is hard, let it be loosened up, as deep as a pick can be sent into the bottom of the hole, and left loose and rough to become mellowed, and pulverised by the action of the weather. Have a good quantity of compost prepared, ready for use in planting. Perhaps the best that can be formed for fruit trees generally, is one-third thoroughly decomposed barn yard manure, with about two-thirds turfy, loomy sods, and a little leaf mould from the woods, all thoroughly incorperated together.

Underdraining should be proceed with when the frost will admit. You will find the benefit of it when planting time comes. Ground will be in working condition a week or two earlier. The root action of plants will commence earlier. They will root deeper into the soil and will be enabled to withstand the drought of summer better. Fruit trees will ripen their wood earlier, and more perfectly in the fall, and consequently will be better enabled to withstand the inclemency of the winter. JOSIAH SALTER.

A QUESTION FOR HORTICULTURISTS.

MR. EDITOR:—For one, I am fond of good melons and I try more or less to raise them, every year, with but quite indifferent success. One year, however, I had better *luck* as some would term it—with melons, cucumbers, squashes and radishes, than I ever had before or since. Now I am not a believer in luck, if by luck we are to understand blind chance, without any sequence of effect following a cause. No sir. I don't believe we live in a chance world. We are placed in this world to labor and to till the soil, and scheme as we may to be sharp and smart, we have got to work, if mother earth is to reward our labor.

Now about that *one* year. I purchased a lot in the northern part of this city, which was a part of the commons, and had lain in pasturage for more than 20 years. The soil was a sandy loam about three feet in depth, underlaid by reddish clay hardpan. On the 25th of May, I plowed it with a two horse plow, as deep as possible, (it was not very deep, however;) then harrowed it lengthwise of the furrow, being careful not to disturb it. I planted it the next day, and it verily seemed as if every kind of seed put into the ground was running a race to outstrip its neighbor. Nicer radishes I never raised; sweeter nutmeg melons, I never tasted; more thrifty and prolific cucumber vines, I would not wish to see; and so on to the end of the chapter, not forgetting the delicious *sweet* corn, and *succotash*. By the way Mr. EDITOR, let me recommend the *horticultural bean* as the best *pole* bean, that can be raised by people generally.—Lima beans are good, but unless started in a hot-bed very uncertain—not so with the horticultural. They are good for *snaps*, and can't be beat for succotash.

Well the next fall I spread on a good coat of horse manure, and the next spring turned it under as before, but now the cut worm ate my cabbage plants and corn, the little striped bug ate up my melon and cucumber vines, my radishes were full of worms, and tough and stringy, and when at last I succeeded by thumb and finger practice, morning and evening, in getting my vines in tolerable trim, it was all vine and little fruit.

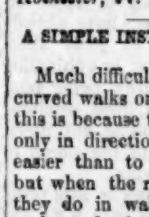
Now, Mr. EDITOR, I want to know from yourself, or some of your correspondents, what caused so great a contrast between the fruit producing tendencies of the first and second years. It could not have been exhaustion, for a better growth of leaf and stalk, I never saw, and, also, better celery I never tasted, than I raised the second. How much may I suggest was the flavor owing to my having covered the bottom of the trench with burnt bones, about two inches in depth; then, over that, about three inches in depth of well rotted manure, and then thoroughly spaded in, and pulverised, leaving the trench, when ready, for transplanting, just a foot in depth, and sixteen inches wide.

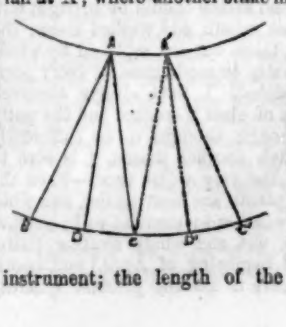
But about melons; what is there in decomposing turf, that is so much superior to our best compost in promoting a fruiting tendency?

Will some of your correspondents favor me with the reasons, therefore? A LOVER OF GOOD FRUIT. *Rochester, N. Y., January*, 1857.

A SIMPLE INSTRUMENT FOR LAYING OUT CURVES.

Much difficulty is always experienced in laying out curved walks or roads in gardens, parks, lawns, &c.; this is because the curves are constantly changing not only in direction but in size; of course nothing is easier than to mark the arcs of two parallel circles, but when the radii of the arcs vary as frequently as they do in walks winding about trees, shrubbery, rocks, and other natural obstructions, it becomes a very nice matter to determine these curves with accuracy. The instrument which we here represent, by the figure A B C D, will be found to be useful in this work, and is so simple that it can be manufactured in a rough manner in a few minutes; it consists of three rods of equal length, united by hinges at one end so that they may be movable. To make a good instrument of this kind, the rods should be made double—having one part to slide over the others, so that they may be lengthened, or shortened, at pleasure. An arm a. b. c., upon which the rods can slide, should be fastened to one of the outside ones, and thumbscrews attached to the two others. To use the instrument let it be opened so that the distances between the points B. D. and D. C. shall be equal, and laying it down on the ground where the curve is to commence, drive stakes at the points A. B. D. C.; now reverse it so that the point C. shall fall on A., and the point D. will then fall at A', where another stake must be placed; again reverse it, and place A at A', and D will fall at D', and C at C' where other stakes must be placed; now reverse again and proceed in the same manner, as far as desired. To change the arc to that of a greater or less radius close or open the instrument; the length of the radii, being in the





inverse ratio to the distances between the rods, that is the wider they are opened, the smaller will be the the circles marked, and visa versa. A little practice will enable any one to use it with much skill. Where it is only wanted for a short time, three strips of wood can be used of the same length as the width of the road or walk, and fastened together by a screw and a small strip nailed across them to hold them in their places.

RUST AND CRACKING OF THE PEAR.

No satisfactory cause has been assigned at any of the meetings where the subject has been discussed for the rust and cracking which injures some varieties of the pear and apple, and particularly the *Virgalieu or White Doyenne*, among the former, and the *Autumn Strawberry*, among the latter.

Nor in the published proceedings of Pomological Societies, has any definite cause been stated to which this defect may be attributed.

M. J. Berkley, one of the ablest continental writers, on these abstruse branches of Natural Philosophy, presents the following particulars, which we presume refers to the malady in question.

"Species of mould of the family of *Helminthosporium*, or *Cladiosporium*, become dreadful pests on the leaves of pears and apples especially of the former.

The *Cladiosporium dendriticum*, (of Walroth,) arises uniformly beneath the true cuticle, under which its *mycelium*, (or spawn,) radiates in every direction. It exhausts the strength of the leaves and often kills the young twigs, while on the fruit it forms unsightly black patches rendering it unsaleable, and sometimes inducing, or else accompanied by extensive cracking. When once it has attacked a tree, it is very apt to return in succeeding years.

A new progeny raised from the seed of diseased individuals, will exhibit the parental malady."

The same writer recommends as the only probable remedy he knows, the collecting and burning of the infected leaves and shoots, and the application to the buds and remaining portions of a mixture of sulphur, lime and gum tragacanth, the latter to make the mixture permanently adhesive, the former to act on the deposited spores, (seeds.)

No other remedy is known when the malady has been established. We presume this is the rust and cracking so much complained of as infesting our *Virgalieu* pear, by eastern cultivators. Those who have abandoned the cultivation of the *Vergalieu* or *White Doyenne*, working their trees of that variety with others not so subject to the disease; only partially remedy the evil, as the sorts substituted will doubtless become infested if the foregoing statements are correct. The true policy would be to destroy the whole tree, or so to wash it as to destroy all trace of the cryptogamic pest. As the rust and cracking is more prevalent in some localities than others, some predisposing cause must encourage the propagation of this mould, which is either to be sought in the atmospheric peculiarities of the locality, or in the nature of the soil. It is said the more the soil of a district becomes cultivated, or worn out, the more the *Virgalieu*, *St. Michael* or *White Doyenne*, will rust and crack.

Unfortunately for our fruit growers and farmers attention to practical science is not a characteristic of our country. We have only a few energetic botanists whose labors are not appreciated as they should be. The State Agricultural Society has conferred a great benefit on the farming community by the circulation of Dr. Fitch's essay on insects; what association will call to the aid of the farmer and gardener some able cryptogamic botanist and physiologist? S.

A New Apple Tree Worm.—Our Orchards were, in the year 1852, visited by a new depridator, similar in form to the common apple tree worm, (*Clisiocampa Americana.*) but differing from it in their general habits. When touched it instantly presents itself in the form of the letter U. Their presence is indicated by the absence of leaves on a single branch, and by a more close inspection, it will be found to contain a small clump of yellowish worms, and often accompanied by a single worm, an inch and a-half in length. This happens the last days of July, or the first in August, and if then destroyed little injury is sustained. About the first of September, they collect in a web, on the body of the tree, and soon disappear. They are also found on the walnut tree.

The writer has not been able to note further changes during its last appearance.

A small white catterpillar, with small black spots on its sides made its appearance in great numbers during the last season, to the detriment of the young corn, and in the summer to the injury of some of our orchards. An Old Subscriber, *Harpersville, Broome Co., N. Y., January*, 1857.

TAR ON FRUIT TREES.

Some of your correspondents talk of putting tar on fruit trees to keep off the mice. It will kill the former, I know by experiment, if put on the bark, and left on. But I should think by being put on old canvass, or rag of any kind, and that put around the tree so as to be taken of in the Spring it would be as easy as any method to prevent the ravages of the vermin. Chilian Ford.

Morristown, St. Law. Co., N. Y.

THE BIG TREE OF CALIFORNIA.

The following description of the Big Tree of California, is from the *Rural Annual and Horticultural Directory*. It will be read with interest:

The "Big Tree," as the giant of evergreens has been familiarly styled by its Yankee countrymen, has insured for America the reputation of producing, in a circumscribed district of its "gold region," the marvel of aboriculture. It is now many years since uncertain reports of the existence of evergreen trees of an extraordinary size reached European botanists, by means of collectors and travelers in Mexico and Central America. Much discussion arose as to the identity of trees of which only drawings or imperfect specimens had been received. A few years ago, a collector, Mr. Lobb, sent home to the firm by which he was employed, authentic specimens and seeds of a tree which has since proved to be not only hitherto unknown to botanists and arboriculturists, but, as has since been determined, strictly local in its *habitat*, and confined to the San Antonio valley, where the original trees were discovered. And it is with pride and satisfaction we state that, unaided by any grant from Congress or Government, but by individual enterprise, thousands of this new and wonderful tree are now to be found in our own vicinity, raised from

seed obtained from the original specimens. Many have been also exported to Europe, where, despite of reason or common sense, the name of the great British Hero has been conferred, by a scientific botanist, on this giant and noble product of American soil—as if we had no Hero in our history worthy of the commemoration. The "Big Tree," however called *Wellingtonia gigantea* by Lindley, can never be styled so by the American citizen. Some have substituted that of *Washingtonia gigantea*, while others adhere to an older but incorrect title, *Sequoia gigantea*. A brief description is all we can afford of this valuable specimen of California products.

This tree has been known for about thirty years. It was discovered in the District of Sierra Nevada, near the source of the San Antonio river, in 38 deg. of north latitude, at an elevation of nearly 5,000 feet

THE "BIG TREE" OF CALIFORNIA.

above sea level. The branches are pendulous; leaves in three alternate rows, imbricated, appressed, oval lanceolate, with a sharp coriaceous point, color light green; cones oval with scales, each covering seven seeds. The most accurate description was furnished by Mr. W. Lobb, botanical collector, who sent specimens of the branches and cones to England. Some of the specimens he saw, reached the height of three hundred feet, and the trunk measured thirty feet in diameter, at three feet from the surface of the ground; at eighteen feet from the base a section measured fourteen feet in diameter; the bark was from twelve to fifteen inches in thickness; and a section which had been hollowed out was twenty-one feet in diameter, affording sufficient space to seat forty persons and a piano. The age of such a specimen, calculating by the zones of wood, is estimated at three thousand years, or one inch in height for every ten years of its estimated age.

M. Naudin, in an elaborate article, in the "*Flore des Serres*," on the discovery and history of this tree, has the following hints for the Government of its native territory, which we have translated, and deem them worthy insertion here:

"It would seem," says M. Naudin, "from the accounts that we have cited, that the great specimens of this tree are not numerous and that the species is even circumscribed within narrow limits. If the government of California had any appreciation of the picturesque beauties of Nature—if it understood its duty towards the Men of Science, Poets and Historians of the future—it would take care not to permit the destruction of these rare and marvellous monuments of the vegetable kingdom, which might one day afford a solution to a question interesting at once to physiologists and geologists—the origin of species, and even that of man himself. Before such considerations all the cupidity of individuals should give way. It is also the duty of men of intelligence in that country to make their fellow citizens understand that the public interest is not exclusively limited to the pursuit of lucre and discovery of gold mines; and that a nation progresses as much and perhaps more by intelligence and knowledge than by material wealth. A government adds honor to itself, by favoring the noble instincts of Science, Art and Poetry, and it fulfils not its mission at the present day, if it neglects to guard the interests of moral order, no longer confined to the people of which it has the care, but extended to mankind."

Such are the ideas which the destruction of some of the noble specimens of the "Great Tree" created in the mind of a French lover of natural productions, and who—living as he does under the domination of an emperor—forgets that the government of California has but a limited authority over the citizen, and dares not dictate what trees shall be cut down, or what shall be left standing, unless, by actual purchase or cession the soil on which they grow belong to it as a body. That, by exerting a wholesome and timely influence on the owners of the soil, such natural curiosities might be preserved, there is no doubt, at least in a society even partially civilized. Our Yankee countrymen much prefer cutting down such trees, and turning them into dollars and cents, either by cutting them up into lumber or fire-wood, or, Barnum-like, exhibiting for a "quarter," to the lovers of the marvellous, in our populous cities, a section of a tree, while, to see the original growing in its native majesty, is worth one hundred fold that sum. Pearls are still cast before swine, notwithstanding the advice of the Great Teacher.

From the great elevation at which the trees have been found growing, and from the low temperature prevailing there, it is hoped the young trees now flourishing in our nurseries will withstand the winter here. In England they have proved hardy, though —obviously from some defect in the management, which the sapient Lindley has not yet clearly explained—many plants have become sickly in the nurseries there. The plants at present in the hands of several nurserymen in this country, have been raised from seeds obtained from the original grove in California, collected by travelers from the Northern and Eastern States. The plants—some of which we have seen—are from eighteen inches to two feet high, and beautifully symmetrical in their habit; the foliage is of a glaucous or light bluish green, resembling somewhat a White Cedar, or Red Cedar.

Ladies' Department.

ORIGINAL DOMESTIC RECEIPTS.

To Make an Excellent Yeast.—Take half a peck of potatoes, and boil them. When done, peel and mash them fine, then add one quart of flour, and mix well with potatoes—add *cold* water sufficient to make a very thin batter. Stir well, and strain through a colander. Then add a tea cup of seed yeast, and let it rise. When light, take sufficient flour for desired quantity of bread, and wet entirely with the thin yeast, adding a little salt. Do this at evening, and in the morning knead into loaves; let it rise, and bake. The very lightest bread can be made with wheat or rye flour. The *yeast will keep two or three weeks in cold weather.*

To Preserve Corned Beef for Summer Use.—In the month of April, or May, when the brine begins to ferment, take up the beef—empty the brine from the barrel; and wash and dry with a cloth. Then take a tub of water, and wash each piece of meat well, and also dry with a cloth. When all is done, take dry salt and rub thoroughly on each piece, and lay back in the barrel. When all is completed, cover the barrel, and the beef will keep two years or more, as nice as when first packed. Salt beef should be put in warm water the day before using, to extract the salt.

For Curing Hams.—Take of salt 12 lbs.; molasses ½ a gallon; brown sugar 2 lbs.; salt petre ½ lb.—Make the salt petre fine, and mix well with salt, then add of cloves, allspice and black pepper 1 tablespoon full each, pounded fine. Mix all well together, and rub on the hams. The above quantity will cure 175 lbs. of meat. The hams should be taken up once in two weeks, and rubbed with the liquid in the bottom of the tub. Let them lay six weeks in pickle, then smoke with corn cobs.

For Making Vinegar.—The cheapest mode of making vinegar is, to mix five quarts of warm rain water, with two quarts of molasses; and four of yeast. Keep in a warm place, and in a few weeks you will have the very best of vinegar.

Orange Custards.—One sweet orange; four spoonsful of sugar; four eggs; one quart milk. Squeeze the juice, and grate the peel. A little rose water is a great addition. Bake or boil.

Sweet Potato Pudding.—Boil two large potatoes—mash fine and strain. Add a piece of butter size of an egg; a little salt; a pint of sour milk, or butter milk; a tea cup of sugar; two small tea spoonsful soda dissolved in water. Bake, and serve with cream, or some kind of sauce.

Cure For Ague and Fever.—Sulphate Quinine one drachm; water one ounce; elixir vitriol 30 drops. Dose, 30 drops, once in four hours, in *absence of fever.* An excellent remedy.

Whooping Cough.—A tea spoonful of castor oil, to a table spoonful ful of molasses; a tea spoonful of the mixture to be given whenever the cough is troublesome. It will afford relief at once, and in a few days effects a cure. The same remedy relieves the croup, however violent the attack.

Cure for Nursing Sore Mouth.—Mix carbonate of iron, sixty-five grains; rhubarb, gum and aloes, each twenty-four grains, pulverized; pulverized epecac and castile soap, each, twelve grains; mix well, and take about a grain, or what you can lay on the point of a small pen knife, three times a day, before eating. If diarrhea is produced, reduce the dose. A decoction of blood root is the best mouth wash. Almost invariably a certain cure. Have tried it myself. The patient should make free use of ale or strong beer, as a *tonic.*

For Cough and Pain in the Chest.—Equal parts of hoarhound tops; elecampane roots, and young william roots and tops. Boil until strength is extracted adding boiling water as it decreases. Then strain, and add sufficient sugar to make very sweet. Boil down to a thick syrup. For a *tight* cough add a tea spoonful "tincture of lobelia" to each pint, when cold.

For a Cough.—Two ounces gum arabic; one-half pounds licorice ball; two ounces rock candy, dissolved, two ounces blood root; one quart water. Mix well; and take a small quantity often.

For Piles.—White, or black, oak bark, boiled down, with alum added. Wash the parts frequently. Never known to fail. M. A. T., *Lockport, N. Y.*

Gooseberry Pudding.—Mash one pint stewed gooseberries; when cold stir in two oz. sugar; add two oz butter and two of sugar beaten to a cream two oz. grated bread, three eggs, beaten; stir all in in turn; line pudding dish with puff paste, *pour in,* and bake one-half hour.

Indian Pudding.—Two quarts scalded milk, one-half pint meal, one-half tea-cup molasses, salt and spice; bake one-half hour.

Paste Pudding.—Make a paste of one egg and flour; boil three quarts milk; shred the paste fine and stir in; when cold, add nine beaten eggs, salt, sugar and nutmeg.

Wonders.—Two pounds flour, three-quarters lb. sugar, one-half lb. butter, nine eggs; add mace and rose water.

Cup Cake.—One cup butter, one do. milk, two of sugar, four of flour, 3 eggs, 1 teaspoon cream tartar, one of soda.

Orange and Almond Cake.—One-half lb. puff paste, roll very thin, lay orange marmalade over it one-quarter inch thick, four oz. almonds cut up, mixed with two oz. sugar and whites of two eggs beaten; lay over the marmalade, bake in moderate oven.

Sponge Cake.—Three eggs, one cup sugar, one of flour, one teaspoon cream tartar, half do. soda.

Muffins.—One quart sour cream, four eggs, four cups flour, one teaspoon soda.

Cream Cake.—One pint sour cream, three eggs, one teaspoon soda, one cup sugar, spice.

Sponge Cake.—One lb butter, one of sugar, one of flour, one of citron, two teaspoons ess. lemon, one of cream tartar, one-half soda, yolks twenty eggs.

Lady Cake.—Same as above, only use the whites, instead of yolks.

Apple Pie.—One quart scalded milk, one pint grated sour apples, two eggs, sugar and spice.—A Farmer.—*Clarkstown, Rock Co., N. Y.*

Editor's Table.

JANUARY PREMIUMS.—The competition for January Premiums has resulted as follows:

1. I. W. BRIGGS, West Macedon, N. Y., $20.
2. JAMES LITTLE, Seneca, C. W., $15.
3. JOHN L. BURROUGHS, Pennington, N. J., $10.
4. SAMUEL GRAY, Reily, Ohio, $9.
5. JAMES H. HANNING, Morriston, C. W., $8.
6. JONATHAN MILLER, Berrysburg, Pa., $7.
7. D. C. HOUSBERGER Rainham Center, C. W., $6.
8. W. B. EDWARDS, Center Lisle, N. Y., $5.

The premiums will be immediately paid. The mails of late have been very irregular, and it is just possible that some of our agents may have mailed letters which ought to have reached us in time but have not, and that had their letters been duly received they would have taken a premium. If such should prove the case, we will pay, in addition to the above, the premium to which they would have been entitled had their letters been received. To enable our agents to determine this matter, we would say that Mr. EDWARDS has sent us FIFTY-THREE subscribers; and if any one has sent us more than that number they will please write immediately, and they shall have the Premium to which they are entitled. The above Premiums, however, will be paid whether such delay has or has no occurred.

Premiums for Short Essays.

The time for competing for our Premiums for Short Essays has now (Feb. 2d) expired. We have received six essays on the Management of Sheep; three on the Management of Swine; two on the Management of Horses; three on Butter Making; four on the Cultivation of Winter Wheat; six on the Cultivation of Indian Corn; three on the Cultivation of Onions; two on the Cultivation of Potatoes; two on the Use of Lime as a Manure; four on the Best Means of Destroying Weeds; three on the Best Means of Destroying Mice, Rats, and other Vermin; two on the Management of a Prairie Farm; six on the Best Method of Fencing a Farm; four on the Influence of Agricultural Papers, and the Duty of Farmers to Write for them: nine for the best answer to the question, "Why do Farmers so generally neglect their Gardens? and the best means of rectifying the evil;" three for the best answer to the question, "Is the Cultivation of Fruit on a more extended scale desirable?"

In the Ladies' Department we have received *ten* for the best Dozen Domestic Receipts; *nine* for the best answer to the question, "Is a residence in the Country or City most conducive to high mental culture, beauty of person, health, happiness and usefulness?" *fourteen* for the best answer to the question, "Is it right to ask the women folk to milk the cows during the busy season?" three on Drying Apples, Peaches, Plums and other Fruit; seven for the best answer to the question, "What can mothers and daughters do to make farm life attractive to their sons and brothers, and prevent them from leaving the farm to engage in mercantile or professional pursuits?"

The above essays are in the hands of competent judges. The premiums will be awarded as soon as they make their decision, and as many of the essays as possible published in the March number.

On the following subjects we have received only one essay each; and as it is impossible in such a case to say which is *best*, we will leave the matter open till the first of April:

On the Relative Advantages of Employing Horses or Cattle in Farm Labor;
On the Cultivation of Spring Wheat;
On Growing Grass Seeds;
On the Best System of Rotation;
On the Most Economical Mode of obtaining Fertilizing Matter other than Barn-Yard Manure;
On any Insects Injurious to the Farmer;
On the Advantages of System in Farming Operations;
On Cutting Hay, Corn-Stalks, and other Fodder, for Horses and Cattle;
On the Management of Permanent Grass Lands;
On Underdraining;
On Planting Trees on the Prairies, for Shelter, Fuel and Timber;
On the Benefits of Agricultural Fairs;
On the Benefits of Farmers' Clubs, and the Best Plan for their Organization;
On the Cultivation of Apples;
On the Cultivation of Plums;
On the Cultivation of Flowers

For the best reasons why our Agricultural Societies should *not* offer premiums for a public exhibition of Lady Equestrianism.

On the following subjects no essays have been received, and we still continue our offer of a Book of the value of One Dollar for the best article (not to exceed a page of the *Farmer*) on these and the above subjects. We trust our correspondents will give us their views on these important matters. If only one essay has been received on any subject by the first of April, the premium will then be awarded to the writer:

On the Management of Milch Cows;
On the Management of Young Stock and Working Cattle;
On Cheese Making;
On the Cultivation of Rye;
On the Cultivation of Barley;
On the Cultivation of Oats;
On the Cultivation of Peas;
On the Cultivation of Beans;
On the Cultivation of Broom Corn;
On the Cultivation of Millet;
On the Cultivation of Crops for Soiling Purposes;
On Growing Clover Seed;
On the Cultivation of Turnips, Ruta Bagas, Mangel Wurzel, and other Root Crops;
On the Management and Application of Barn-Yard Manure;
On the Use of Unleached Ashes as a Manure;
On the Use of Leached Ashes as a Manure;
On the Use of Salt as a Manure;
On the Use of Peruvian Guano as a Manure;
On the Use of Superphosphate of Lime as a Manure;
On the Advantages of Forethought in Farming Operations;
On Subsoil Plowing;
On the Advantages of Stirring the Soil in Dry Weather;
On Irrigating Grass Land;
On the Best Plants for Hedges—their Management, &c.;
On the Management of Woodland;
HORTICULTURAL SUBJECTS.—On the Cultivation of Pears;
On the Cultivation of Peaches;
On the Cultivation of Small Fruits—Strawberries, Raspberries, Currants, Gooseberries and Blackberries;

On the Cultivation of Cranberries.

The advantages of shelter for Gardens, and the best means of providing it;

On the Management of a Farmer's Garden;

FOR THE LADIES.—For the best reasons why our Agricultural Societies should offer premiums for a public exhibition of Lady Equestrianism.

A SLIGHT MISCONCEPTION.—In an article on Barn-yard Manure, in our last number, we stated that plaster, (sulphate of lime,) in the dry state, would not decompose, or "fix," carbonate of ammonia. One of our contemporaries, edited by a gentleman of considerable scientific reputation, agrees with us on this point, but appears to labor under a misconception as to the cause. He says:

"But it must be recollected that Plaster of Paris does not possess power in a dry state, or when applied to dry manure; only when the sulphuric acid *has been set free by water* will it act upon ammonia.

Now, plaster is not decomposed by being dissolved in water. The sulphuric acid is not set free. The reason why plaster will convert carbonate of ammonia into sulphate of ammonia when in solution, and will not do so in a dry state, is referrable to a chemical law propounded by BERTHOLET, but which we have not space to expound at this time. We allude to the matter merely because the subject is one of practical importance, and one on which there is much difference of opinion; and we fear that the truth of our statement may be questioned by intelligent scientific farmers, if the effect is ascribed to a wrong cause.

We would also remind our contemporary, that the article, "Peat and Peat Charcoal as Absorbents of Ammonia," given in connection with the article in which the above extract occurs, should be credited to the *Genesee Farmer*.

CONSUMPTION OF MEAT.—The cities of New York and London consume, as nearly as possible, the same quantity of meat in proportion to their inhabitants, or about half a pound of meat per day for each person. As compared with London, however, there is much more beef consumed in New York than mutton. The Americans, rather than the English, are entitled to the appellation of "Beef-eaters." South Down mutton commands a higher price than beef in England; and if our mutton was as good as the English, the consumption would be much greater, and the price proportionally higher. "English mutton, brought out by the last steamer," is to be found at many of the principal saloons in Boston and New York. Whether it has ever cropped the sweet herbage of the chalk downs of Merrie England" or not, we will not undertake to decide.

SOAKING SEED PREVIOUS TO PLANTING.—It is the practice of many to soak cucumber, squash, melon, and other seeds, previous to planting. A correspondent says that "although the seeds sprout quicker, the plants will not be as healthy and vigorous as if the seed was sown without soaking, before a shower." What is the experience of our readers?

FEEDING HOGS.—A correspondent at Greenwich, Ohio, writes us that he killed a lot of hogs last fall, 210 days old, which weighed 256 lbs. each, dressed. They were fed well all summer and fall, and eat eleven bushels of corn each. They were of the "common breed," and our correspondent would like to know "if the Suffolks can beat this."

THE RURAL ANNUAL FOR 1857.—The first edition of the *Rural Annual and Horticultural Directory* for 1857 was exhausted before half our orders were supplied, and many of our friends had to wait longer for the work than they or we desired. As it was unavoidable, however, we trust they will excuse the delay. We think they will find it worth waiting for. Commendatory notices of the work are pouring in upon us from every quarter, and it promises to rival the circulation of the most popular works of the day, in the other departments of literature.

It contains, besides a great variety of matter interesting to every farmer and gardener, articles on Rural Architecture, with several beautiful designs of cottage, suburban, and farm houses, prepared expressly for the *Rural Annuals* On laying out a small Fruit and Kitchen Garden, with a list of the best varieties of fruits, directions for the preparation of the ground, &c., with a fine engraving: On the cultivation of Strawberries, Raspberries, Blackberries, Currants, Gooseberries, &c., with engravings and descriptions of the best varieties, &c.: On the management of Hedges, with illustrations of the best modes of training, &c.: On the Kitchen Garden:, On the management of Grapes in cold houses, with engravings showing the best mode of training, &c.: On planting an Apple Orchard, best varieties for different localities, &c.: On the Architecture of Lodges, School Houses, &c., with two beautiful engravings: On building a Stable, with plan and description: On the breeds and management of Poultry — profusely illustrated: On Ornamental Planting, Landscape Gardening, &c., with numerous illustrations: On the Advantages of Shelter, &c. Also, a corrected list of Fruits recommended by the American Pomological Society, with lists of Nurserymen and Agricultural Implement Makers in the United States and Canadas. The whole comprising a work of 144 pages, which for usefulness and beauty should be in the hands of every one interested in Rural Pursuits.

We send it, postage paid, for TWENTY-FIVE CENTS a copy.

In Clubs of Eight, we send the *Genesee Farmer* and *Rural Annual* for FIFTY CENTS the two.

To every one sending us eight subscribers to the *Genesee Farmer*, at the lowest club terms of THIRTY-SEVEN AND A HALF CENTS each, we will send one copy of the *Rural Annual*, postage paid, for his trouble.

PROFITS OF BUTTER MAKING.—We have received a communication from an anonymous correspondent, criticising "A. S. B.'s" article on "Cows and Butter Making" in the last number, and asking if "Dora" and "Ruby" will knock under to his cow "Jessie;" but he forgets to tell us the amount of butter obtained from "Jessie," the quantity of food consumed, cost of keeping, &c. Without these particulars, we are unable to judge. If our correspondent will give us his name, we will return the article for his correction in these respects, and will then publish it.

AN EGG WITHIN AN EGG.—H. J. BRUNNER, of Nazareth, Pa., says that some 12 years ago a neighbor's hen laid two eggs, as large as a common sized goose egg; inside one of which was contained another of the size of an ordinary hen's egg, the interstices between the shells of the smaller and larger eggs being filled with the white of egg (albumen). The smaller egg was perfect in every respect. After laying the second egg, (which was not examined,) the hen laid down and died.

ANNUAL MEETING OF THE U. S. AGRICULTURAL SOCIETY.—The Fifth Annual Meeting of the United States Agricultural Society was held at the Smithsonian Institute, Washington, January 14th. The receipts of the Society during the past year have been about $40,000; expenses, almost the same. The next Fair of the Society will be held at Louisville, Ky. Its citizens have raised a guarantee fund of $30,000. Resolutions were adopted recommending the purchase of Mount Vernon, and the establishment of an Agricultural College and Experimental Farm by the National Government. A great trial of implements (except reapers and mowers, for which some other place will be designated,) is to be held in conjunction with the next Fair at Louisville. Committees were appointed to take the matter in charge; and also other Committees to memorialize Congress in respect to an Agricultural Department; to examine the merits of the Chinese sugar cane; and one to inquire into the cause and cure of the "Hog Cholera," which is making sad work among the swine in some parts of the country. The following officers were elected:

President—MARSHAL P. WILDER, Mass.
Secretary—B. P. POORE, "
Treasurer—B. B. FRENCH, Washington, D. C.
Executive Committee—GOV. KING, N. Y.; GIBSON MALLORY, Ky.; Dr. ELWYN, Pa.; D. J. BROWNE, D. C.; FREDERICK SMITH, N. H.; Dr. STEVENSON, Ind.

AN INTERESTING FACT.—The recent investigations of Prof. WAY, Chemist to the Royal Agricultural Society of England, have brought out a curious fact, which may throw light upon the *rationale* of some important practices in agriculture. Rain water contains ammonia and nitric acid, and it is from these two substances that the nitrogen of plants is obtained. A series of examinations of the water discharged from underdrains, shows that it contains *less* ammonia and *more* nitric acid than rain water. Rain water filtering through the soil, then, parts with its ammonia, but dissolves out nitric acid from the soil or manures. How is this nitric acid formed in the soil? Probably, says Prof. WAY, from the oxidation of nitrogenous manures; and he recommends a more perfect admixture of manures with the soil as the most likely means to prevent the formation of nitric acid, and the loss of nitrogen from leaching. It appears to us, too, that if the manure was thoroughly decomposed before applying it to the land, it would not only be easier to mix it ultimately with the soil, but there would be less nitric acid formed, and consequently less loss.

BOUND VOLUMES.—In reply to several inquiries, we would say that we can furnish bound volumes of the *Farmer* for the years 1847, '8 and '9, and for 1852, '3, '4, '5 and '6. They are handsomely bound in half sheep. The price is $1 per volume. If sent by mail, 25 cents additional must be sent to prepay postage. We have a few volumes for 1856, bound in paper, which will be sent, postage paid, for 75 cents a volume. Those who wish them should send early.

CHEESY BUTTER.—If the writer in the last *Farmer*, on butter-making, wishes to avoid the cheesy substance, as he chooses to call it, by allowing milk to stand some time for the cream to rise, he can skim it every day, and thus let it stand as long as he chooses. But, of course, butter will not be as good when cream or milk stands too long. M. S. B.—*Aurora, N. Y.*

OSAGE ORANGE HEDGES AT THE WEST.—The editor of the *Boston Cultivator*, SANFORD HOWARD, Esq., who made a tour through the Western States last year, was disappointed with the appearance of the osage orange hedges of Illinois and Iowa. He says: "Of many miles of what are *called* hedges, we scarcely saw a rod that would be considered a fence." This is attributed to careless cultivation; but even where they had been well managed, "there were various dead spots, caused, probably, by the winter." We are sorry to hear such a poor account of the hedges of the West, from such good authority. We still hope, however, that a better system of cultivation will yield more encouraging results. In regard to the dead spots, it would seem that they are a necessary evil in all hedges; even in England it is rare to see any considerable length of hedge without imperfect spots, and yet no one doubts the adaptability of the hawthorn to the climate of England.

THANKS, KIND FRIENDS!—We are under great obligations to the numerous friends of agricultural and horticultural improvement for their disinterested labors in extending the circulation of the *Genesee Farmer*. Up to this date (January 29) we have on our books *more than double* the number of subscribers we had this time last year. We have had to reprint the January number three times, and our paper this month is delayed a few days in consequence of this unexpected demand. We shall spare neither labor nor expense to make the *Farmer* the present year worthy of this great circulation. We must remind our friends, however, that the "old *Genesee Farmer*" has always been "The Practical and Scientific Farmer's *Own* Paper," and while we make it the *cheapest*, it rests mainly with them to say whether it shall be the *Best* farmer's paper in the country. If they will make it their medium for a free interchange of ideas on the various topics of rural life, our labors will be comparatively light, and the interest and usefulness of the paper greatly increased.

DESIGNS FOR COTTAGES, FARM HOUSES, &C.—H. J. BRUNNER, of Nazareth, Northampton Co., Pa., writes us that the "designs of cottages, farm houses, &c., in the *Genesee Farmer*, have been turned to good use in our neighborhood,—several houses having been built during the past year, and several others now in contemplation to be built, according to plans and designs laid down in your useful journal." This is encouraging, and we shall endeavor to make this department of our paper still more valuable.

SPARE THE BIRDS.—A bill has been introduced into the New York State Senate, which provides that it shall not be lawful for any person to kill or destroy, upon any land not owned by himself, any of the following birds, under a penalty of $10:

The robin or redbreast, blue bird, swallow, martin, or mosquito haw, woodpecker, cat bird, high-tailed thrush or brown thrasher, mourning dove, meadow lark or marsh quail, summer red bird, hanging bird, spider bird or wax bird, ground robin, bobolink or rice bird, and sparrow.

CURE FOR WARTS ON CATTLE.—Rub tar on them until they are removed. This is an effectual remedy. B. D.—*Jackson, Pa.*

TO DESTROY RATS AND MICE.—The best plan I can devise, is to remove everything they can subsist on out of their reach. AMOS CLIFT.—*Albion, N. Y.*

A Good Hint.—Order is said to be Heaven's first law, and would it not be well for every one who tills the soil to note down on paper every item of practice he intends to pursue the coming season—prepare a list of whatever seeds he designs to plant or sow, and the times at which it should be done—note where they may be obtained, and have them ready and labeled—prepare strips of shingle, pointed at one end and smooth on one side, to mark the name of the thing sown with a lead pencil? They will last, as we know from experience, the season through; and when you wish to gather seed from any article, they are very handy as a means of reference. These, and many other similar expedients, your readers will find productive of much convenience and Order.

The Connecticut Biddy Outdone.—One of my hens (a mixture of the Shanghai and common breeds) laid an egg in September last, which was nearly as large as a goose egg. We kept it several days to show to the neighbors that came in, on account of its uncommon size; it was then broken open to cook, when out dropped another egg of full size. It was then kept several days longer to exhibit, on account of its still greater curiosity. The shells of both were hard, and their contents perfect. Certainly this is an age of wonders and improvements, and the biddys don't mean to be behind the times. J. S. Ruby.—*Gaines Basin.*

The Annual Meeting of the New York State Agricultural Society will be held at Albany, February 11th. There will be an exhibition of fruit, grains, fat meat, &c. The new Rooms of the Society will be dedicated on Thursday, the 12th, and addresses delivered by several gentlemen. It is hoped that there will be a general attendance of farmers, and all friends of agriculture.

Potato Disease.—Alex. Titus, of Yorktown, Westchester Co., N. Y., writes us that with him "potatoes that grow nearest the surface of the ground are the ones that rot the most." Does this correspond with the observations of others?

Rural Annual for 1856.—We have still on hand a few copies of the *Rural Annual and Horticultural Directory* for 1856, which will be sent, postage paid, for 25 cents.

Notices of New Books, Periodicals, &c.

Ivors. By the author of "Amy Lee" and "Grace Hall." New York: D. Appleton & Co. 1857.

An interesting novel in two volumes, illustrating some of the good and bad features of English aristocratic society, and the injurious tendency of a narrow and exclusive system of education. The author's style is agreeably fluent, but somewhat discursive. Had the work been pruned down to one volume, it would have been more acceptable.

Webster's Counting-House and Family Dictionary.—Webster's Dictionary needs no commendation. Its great merits are fully appreciated wherever the English language is spoken. The Counting-House and Family edition, recently published by G. & C. Merriam, Springfield, Mass., cannot be recommended too highly. For sale by D. M. Dewey, of this city. Price $1.50.

Inquiries and Answers.

Red Spider in Green Houses.—I wish to inquire through the pages of your highly valuable paper for a method of exterminating that pest of the green house, the red spider. The fumes of tobacco have proved very efficacious in destroying the "green fly," but are of no avail for the destruction of the red spider.—W. H. Elliott.—*Kenawee, Ill.*

The red spider *(acarus tillarius)* is one of the gardener's greatest pests, though so small as to be scarcely visible to the naked eye. Color sometimes yellowish, at others brown, but often a dull red; on each side of its back is a blackish spot. We annex a cut of one the natural size, (which our engraver has made somewhat too large,) and

RED SPIDER, NATURAL SIZE AND MAGNIFIED.

one as seen through a powerful microscope. The following method of destroying them will prove efficacious in a mixed collection of green house plants:

Take half a peck of quick lime in lumps, dip the lime into water until it is pretty well soaked; then place it in a tub and put upon the lime one pound of sulphur. Allow it to stand in the green house until it has done steaming; keep the house shut up close while steaming. Then add three gallons of soap-suds, or water with soft soap in it; let it stand until quite clear. Then to half a gallon of the clear liquid add one gallon of clean water, and syringe the plants all over, and especially under their leaves. Repeat this two or three evenings. Repeated syringing will keep them away.

Currant Bush Worm.—I would beg to call your attention to a green worm, which proves very destructive to our currant bushes in this section. It makes its appearance early in June. In the first place it is very small; it eats the leaves, and in about a month the bushes are completely stripped of their leaves, at which time the worms are about an inch in length. If you, or any of your readers, would be so kind as to inform us how to prevent the ravages of this destructive little worm, you would no doubt confer a great favor on many of your readers in this community. D. C. Housberger.—*Rainham Center, C. W.*

The description of the appearance and habits of this worm, given by our correspondent, is so general that we are unable to decide definitely what it is. In this vicinity, the currant bush has no such enemy—in fact, few of any sort. Loudon mentions the grub of a small saw-fly *(Nematus ribesii)* as being very destructive to the gooseberry and currant in some parts of Great Britain; and as large quantities of these plants are annually imported into this country, it is probable that the grub is here also, although

It may not be the one mentioned in the inquiry. The following is LOUDON'S description—but as there is a difference in climates, the dates mentioned will not apply here: "The grub is of a green color, shagreened with minute black tubercles, which it loses at its moult. Early in March, if the weather is favorable, the first flies issue from their chrysalis, a few inches below the soil, at the foot of the bushes. Soon afterwards, the females deposit upon the under surface of many of the leaves, along the ribs of each leaf, a series of eggs, which appear like strings of small, pellucid, delicate, oblong beads. A single fly will fill up the ribs of many leaves; and as several generations are produced in one season, the destruction of a single fly at an early period, is the prevention of some thousands of voracious successors. The following times of hatching, &c., may be relied upon as accurate: On the 9th of April the eggs were laid; on the 19th they were hatched; and if the temperature is mild the caterpillars grow rapidly, and from their number soon destroy the foliage of the chosen bush. They usually continue in the caterpillar state about ten days; when, dropping to the earth, they penetrate below the surface, and change into a small brown chrysalis; in which dormant state they remain from fourteen to seventeen days, and then come forth as flies, which in a day or two lay their respective quantities of eggs." The remedies recommended, are diligently killing the flies in early spring, and collecting the egg-bearing leaves and burning them. After the worms are hatched, we should think dusting the plants with ashes, when the dew is on, would be beneficial in preventing their ravages. Our correspondent would do well, the coming season, to study closely the habits of this enemy, and, if possible, discover some method of destroying them, and communicate to us the result of his investigations.

(H. B. WHITE.) HORSE DISTEMPER.—If your horse is but slightly affected, he will probably recover without the aid of medical treatment. If he has a bad cough, with considerable discharge of mucous from the nostrils, energetic treatment should be resorted to immediately. If the pulse is strong as well as quick, it is well to bleed. The throat should be well stimulated, externally, with tincture of cantharades (Spanish flies). If the bowels are costive, two or three drachms of aloes may be given; but otherwise, the following ball may be resorted to at once, and administered night and morning, for several days:

Salt Petre,	2 drachms.
Tartarized Antimony,	1 drachm.
Digitalis, powdered. (Foxglove,	1 scruple.
Linseed meal,	3 drachms.

To be made into a ball with Barbadoes tar. Bran mashes, carrots, and other soft food, should be given; and if the horse is quite sick, oatmeal or linseed gruel.

UNDERDRAINING.—I fear you will think me troublesome, but I want some information about thorough draining. I see the drainers are at issue about draining slopes: some run across, others perpendicular, to the slope. On a very moderate slope—say two or three feet to the hundred yards—on stiff, impervious clay and subsoil, which is best?

What difference is made here, or has practice shown any to be necessary, in the size and distance of the openings, in consequence of our heavier rains and greater heat?

I see that Mr. MECHI allows as a task in "honest" *i. e.* clear of stone—clays, 22½ yards of five foot cutting, averaging four feet, to each laborer. With drains 26 feet apart, that gives to each hand, it seems, only 2 perches per day, since 3½ yards only in breadth are drained by each ditch. This seems dreadfully slow.

I am only operating for experiment, on a garden and one or two plots, and I shall drain according to the Essex plan, as given by Mr. PUSEY, in WILSON'S Rural Cyclopædia, page 92—article, Draining.

Has the difference in evaporation here and in England ever been determined? It would seem that a greater degree of evaporation would justify a shallower system of drains. *—*Virginia.*

Will our esteemed friend, Mr. JOHNSTON, of Geneva, or some others who have the requisite experience, answer the above?

JAMES WILLIAMS.) MACHINE FOR SAWING WOOD.—Mr. E. D. HALLOCK, of this city, has invented and is manufacturing a machine which, we think, will be just the thing you wish. It is a drag and circular machine, combined—the drag being used to saw up the bodies of the large trees, while the circular is used for sawing the limbs and small trees. It can be driven by any of the ordinary Horse Powers. For further information, see Mr. HALLOCK'S advertisement, in this number.

(HENRY M. SELDEN, Haddam Neck, Ct.) YELLOW LOCUST SEED.—You can probably get Yellow Locust seed from THOMAS MEEHAN, Germantown, Philadelphia, Pa.

(N. J. BLAKSLEE.) Dr. HARRIS' Treatise on Insects is out of print, and cannot be had.

TAN-BARK AS MANURE.—Can tanners' spent tan-bark be converted into manure? What is the best method of treating or preparing it ready for use? A. G. H.

ADVERTISEMENTS,

To secure insertion in the FARMER, must be received as early as the 10th of the previous month, and be of such a character as to be of interest to farmers. TERMS - Two Dollars for every hundred words, each insertion, PAID IN ADVANCE.

PEACH TREES.

WE have on hand, for spring sales, a large stock of the above, consisting of a few of the best varieties, which we offer as follows: Yearling Trees, 1st size, $70 per 1000.
" 2d " $50 per 1000.

For general assortment of Nursery Stock see advertisement and Catalogues.
ELLWANGER & BARRY,
Mt. Hope Nurseries, Rochester, N.Y.

January 20, 1857

☞ By a typographical error in the Spring edition of our wholesale Catalogues, Peach trees were designated as "two years old" instead of one year, as intended. feb 1—1t E. & B.

FRUIT TREE SCIONS FOR SALE.

200 Scions of Choice Apple, ten kinds, twenty of each, including King and Primate, for $1. Also, ten kinds of Cherries, including Kirtland's varieties, fifteen of each, for $1. Also, ten kinds of Pears, fifteen of each kind, for $1. Also, ten kinds of Plums, ten of each, for $1, Willow Cuttings, $1.50 per 1000. Horse Chestnut Seedlings $10 per 1000.
W. T. & E. SMITH, Geneva, N. Y.

Feb. 1—1t*

NEW CHINESE POTATO.

DIOSCOREA BATATAS.—Roots from 4 to 9 inches long, at $3 per dozen, and small Seed Tubers (can be sent by mail) at $1 per dozen, or $7 per 100, with Description and Directions for Culture.
J. M. THORBURN & Co.
feb—1t 15 John St., New York.

THORBURN'S WHOLESALE PRICED LISTS

OF VEGETABLE, Field, Tree and Flower Seeds for 1857, will be mailed to Dealers, enclosing a 3 cent stamp.
J. M. THORBURN & Co.,
feb—1t 15 John St., New York.

FRUIT AND ORNAMENTAL TREES.

ELLWANGER & BARRY, PROPRIETORS OF Mt. HOPE NURSERIES, Rochester, N. Y., solicit the attention of Nurserymen, Planters and Dealers to the extensive stock now on their Grounds, which they are prepared to offer for the ensuing Spring Trade.

Their Nurseries were established eighteen years ago, and now occupy 400 acres of land, closely planted. The stock now growing is the most varied and extensive ever offered in this country, including—

Standard Apples for Orchards;
Dwarf Apples on Paradise and Doucain stocks;
Standard Pears on free stocks 1 and 2 years;
Dwarf and Half Standard Pears on Quince Stocks, 1 and 2 years from bud;
Standard Cherries on Mazzard Stocks, 1 and 2 years from bud.
Dwarf do. on Mahaleb " " "
Plums, Dwarf,
Peaches, Apricots, Nectarines, Quinces, &c.
Grapes, Hardy Native and Foreign varieties;
Strawberries, Gooseberries, Currants, Raspberries,
Rhubarb and Asparagus.

The collection of bearing Specimen Trees is the largest in the United States. Besides, the proprietors devote their entire time and attention to the business, and they are thus enabled to guarantee the correctness of articles sent out.

THE ORNAMENTAL DEPARTMENT

Is equally complete, and comprises

ORNAMENTAL DECIDUOUS TREES of all kinds, including the most elegant Weeping Trees for Lawns and Cemeteries.

EVERGREEN TREES of all the most desirable species, and of all ages and sizes. More than a million of trees are in a saleable state, and are offered low, in quantities.

EVERGREEN AND DECIDUOUS FLOWERING SHRUBS, including almost everything suitable for the climate of the United States.

ROSES—Upwards of three hundred of the most beautiful varieties, carefully selected during many years culture and experiment.

PEONIES—About eighty superb varieties, including many new and very distinct sorts.

PHLOXES—Seventy-five select and beautiful sorts, all of recent introduction.

CHRYSANTHEMUMS—Fifty of the finest *Pompone* or Daisy varieties, newly introduced.

CATALOGUES.

The following Catalogues will be sent gratis to all who apply and enclose a stamp to pre-pay postage:—

No. 1—A Descriptive Catalogue of Fruits.
No. 2—A Descriptive Catalogue of Ornamental Trees, Shrubs, Roses, &c., &c.
No. 3—A Catalogue of Dahlias, Verbenas, Petunias, and select green house and bedding plants.
No. 4—A Wholesale-priced Catalogue for Nurserymen and Dealers. feb—1t

TO FARMERS AND GARDENERS,

THE Subscribers offer for sale 40,000 barrels of their New and Improved POUDRETTE, manufactured from the night-soil of New-York city, in lots to suit purchasers. This article (greatly improved within the last two years) has been in the market for eighteen years, and still defies competition as a manure for Corn and Garden Vegetables, being *Cheaper, more powerful than any other*, and at the same time *free from disagreeable odor*. Two barrels ($3 worth) will manure an acre of corn in the hill, will save two-thirds in labor, will cause it to come up quicker, to grow faster, ripen earlier, and will bring a larger crop on poor ground than any other fertilizer, and is also a preventive of the cut worm; also, it does not injure the seed to be put in contact with it.

The L. M. Co. point to their long-standing reputation, and the large capital ($100,000) invested in their business, as a guarantee that the article they make shall always be of such quality as to command a ready sale.

Price, delivered in the city free of charge and other expense—

One barrel, - - - - -	$2.00
Two " - - - - - -	3.50
Five " - - - - - -	8.00
Six " - - - - - -	9.50

And at the rate of $1.50 per bbl. for any quantity over 6 bbls.

☞ A Pamphlet, containing every information, will be sent (FREE) to any one applying for the same. Our address is—

THE LODI MANUFACTURING CO.,
feb 1—4t Office, 60 Cortlandt St., New York.

FOR SCHOOL EXHIBITIONS.

THE EXHIBITION SPEAKER AND GYMNASTIC BOOK, illustrated with Seventy Engravings; contains Plays, Farces, Tableaux, Tragedies, Dialogues, Comic and Humorous Pieces, Senatorial Speeches, &c., &c. The action in all described and written out so that Teachers and Scholars have no difficulty in performing them well on the rostrum. The Gymnastics and Calisthenics are of great importance to Teachers and Pupils in Schools and Academies. Remit Eighty-seven cents in stamps, and you will get the book by mail, free of postage. Address

D. M. DEWEY,
feb 1—2t Rochester, N. Y.

EVERYBODY SHOULD HAVE

A COPY OF THE

Rural Annual and Horticultural Directory

For 1857.

IT contains a valuable article on Rural Architecture, accompanied by beautiful designs of Farm Houses, Cottages, Suburban Residences, &c. Also, practical treatises on the management of Fruit, Flower and Kitchen Gardens; Cultivation of Grapes, Strawberries, Raspberries, Blackberries, Gooseberries, Currants, &c.; Plan for laying out a Fruit Garden and Ornamental Grounds, with the best Location for Fruit Trees, Vegetables, &c., together with useful articles on the Rearing and Management of Poultry, and various other subjects of interest to every lover of rural life. It contains, also, a very full and correct List of Nurserymen in the United States and Canada; a List of Agricultural Implement Makers, &c., together with a List of the Fruits Recommended by the American Pomological Society as corrected at its last meeting held at Rochester September 1856. It is a work of 141 pages, illustrated with eighty engravings, and is alike attractive and useful, containing as much matter and more information than many dollar books.

This beautiful and valuable work will be sent, postage paid, to any address, on the receipt of 25 cents in postage stamps.

JOSEPH HARRIS,
Pub. of Genesee Farmer, and Rural Annual. } ROCHESTER, N. Y.

NEARLY READY—WITH SUGAR CANE SEED GRATIS!

Chinese Sugar Cane, & Sugar Making.

ITS HISTORY, CULTURE, AND ADAPTATION TO THE SOIL, CLIMATE AND ECONOMY OF THE UNITED STATES,

With an account of the Various processes of manufacturing

SUGAR.

Drawn from Authentic Sources, by CHARLES F. STANSBURY, A.M., late Commissioner at the Exhibition of the Industry of All Nations, at London. Price Twenty-five cents.

Published by C. M. SAXTON & Co., 140 Fulton St., New-York.

☞ To persons enclosing 26 cents and a three-cent P. O. Stamp to us, we will send the above book and *Seed enough to Plant two rods square*

C. M. SAXTON & Co.,
feb 1—1t 140 Fulton St., New-York.

CHINESE SUGAR CANE SEED.

THE Subscribers have made arrangements for, and have now on hand a moderate supply of the seed of the above plant, well ripened, and may be relied on as GENUINE.

Sufficient to plant about one-fifth of an acre in drills 4 feet by 18 inches, put up in strong linen packages, sent by mail, post paid, on the receipt of One Dollar, or a proportionate quantity by express, at purchaser's expense.

Order early to secure the seed.

Also, a full assortment New and Fresh GARDEN SEEDS, imported and American growth.

Field Seeds and Grain of the most desirable kinds.

Flower Seeds, the finest variety.

Full Catalogues, gratis on application.

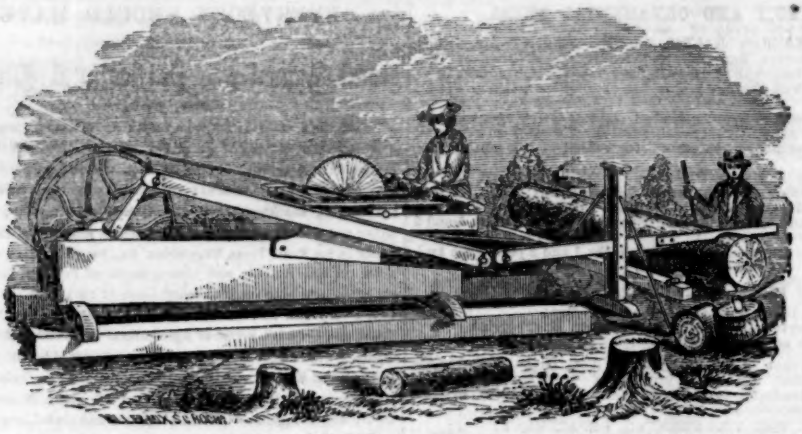
HENRY D. EMERY & Co.,
feb 1—2t No. 204 Lake St., Chicago, Ill.

SUGAR CANE SEED.

EMERY BROTHERS have, at much expense and trouble, obtained a supply of Genuine Seed of the Chinese SUGAR CANE, or "*Sorghum Saccharatum*," successfully grown, fully matured, and sure to vegetate, from Mr. R. PETERS, of Georgia, which they will supply in strong linen packages, with full directions for its culture, for ONE DOLLAR, each containing sufficient quantity for one-fifth of an acre. All orders should be accompanied with TWELVE CENTS, or Stamps if to be sent by mail. Pamphlets containing a compilation of reliable information, experiments and success of the plant since its introduction in this country, furnished gratis (post-paid) upon receipt of a three cent postage stamp.

EMERY BROTHERS,
Proprietors Alb. Agricultural Works, 52 State St. Albany.
feb 1—2t

LINNÆAN GARDENS AND NURSERIES, FLUSHING, N. Y. Founded 1743. WM. R. PRINCE & Co. will send to applicants their Descriptive Catalogues of Fruit and Ornamental Trees, Roses, Bulbs, Seeds, &c.



HALLOCK'S COMBINED
CROSS-CUT AND CIRCULAR SAW MILL.

PATENT APPLIED FOR.

This Machine received the First Premium at the New York State Fair at Elmira, 1855, and again at the Society's last Fair, held at Watertown, Oct. 1856.

THE above cut represents a new and useful Machine recently perfected by the subscriber. It is made strong and durable, and is very simply constructed, requiring little skill to operate it, and is not liable to get out of order. It can be driven by any of the ordinary Horse Powers used in threshing. The saws can be both used at one time, or separately, as may be desired. In sawing wood the limbs and small trees can be cut by the circular saw, while the cross-cut is sawing the bodies of the larger trees: it is useful in sawing barrel heading, stave and shingle bolts, slitting fence stuff, boring caps, and a variety of other purposes for which such saws are employed. Within the last year some important improvements have been made—such as strengthening the castings, attaching a balance wheel to the circular saw, fitting the main shafts to receive augers for boring caps. He also furnishes a hand with the combined Mill, not included heretofore, and as now manufactured, can be fully recommended and warranted to be durable and substantial. It has been thoroughly tested—about fifty of them having been sold within the last year, which have given entire satisfaction. With the recent improvements, it will be found superior to any like machinery. The Combined Machine has one circular saw for cutting cord wood, limbs, poles, &c; and one cross-cut or drag-saw, for sawing logs into stove-wood or other lengths; the single Machine has only one cross-cut or drag saw; the double Machine has two drag saws, which are made to order, to cut any desired length. The prices of the Improved Machines are as follows:

Combined Machine, with one circular and one drag saw,	$85 00
Single Cross-Cut, with one drag saw,	40 00
Double Cross-Cut, with two drag saws,	55 00

Cap, Auger and Slitting arrangements, extra.

The Combined Saw Mill is capable of cutting from 30 to 40 cords of stove wood per day, if properly driven. It is warranted to be well made, of good materials, and to work as represented.

WEBSTER, Jan. 4, 1856.

MR. E. D. HALLOCK—Dear Sir:—The Cross-Cut and Circular Saw Mill Combined, which I purchased from you, works to my entire satisfaction, and I can cheerfully recommend it as a very useful and labor-saving machine. It can be operated with three or four horses on the sweep power, in running either saw separately; and five or six horses will furnish sufficient power to run both at the same time, sawing wood as fast as the same number of men can furnish it to the machine. Very respectfully yours, &c.,

SHERMAN FERRIS.

PEMBROKE, Sept. 12, 1856.

MR. HALLOCK:—The Combined Saw Mill I bought of you works first rate. I attached it to Emery's two horse power, which runs a single saw as fast as two men can get the wood off. I am satisfied with sufficient power the combined mill can cut all the wood in a day that any man could desire. Yours,

E. D. LONG.

We have been using during the summer one of Hallock's Sawing Machines, for making railroad wood; it is constructed for two cross-cut Saws. Our power is a portable engine of five horse. With this power we have driven both Saws through three feet logs with the greatest ease, and have cut from 20 to 30 cords of wood per day. After using the Machine steadily for several months we have no hesitation in saying that it is the cheapest and best arrangement for sawing either long or short wood that we have ever yet seen. In his Combined Circular and Cross-cut Saw Mill, by the addition of a balance-wheel on his Circular Saw-arbor, the farmer has a compact and very efficient and useful Machine for sawing wood, or preparing and boring caps. It can be used either with Horse, Wind, Water or Steam Power. By placing a slitting table upon the Circular Saw Table, bolts can easily be slit into cap stuff, and bored by an auger attached to the Machine. Altogether, farmers will find it a useful and reliable addition to the machinery of the farm for saving labor.

T. C. PETERS, Darien, N. Y.

E. D. HALLOCK—Dear Sir: I consider the Combined Saw Mill I purchased of you a very efficient Machine, and valuable for saving labor and timber. I am confident there is an actual saving of timber of at least ten per cent., and when sawed stove length, an increase of what would be rated as body wood, over the ordinary chopped wood, of from 10 to 15 per cent. D. CLARK.

Union, Sept. 1, 1856.

Harlem, Leeds Co., C. W. Oct. 1, 1856.

Mr. E. D. HALLOCK—Sir: In regard to the double Saw Mill that I bought from you last July, I can say it is ahead of anything that they can start up in Canada. I started the Circular first. I put on two pair of horses, and run it one half day. We cut near 30 cords of stove wood. It will cut as fast as any set of hands can put it on, and as for the cross-cut I can cut off a log 16 to 20 inches hard maple in one minute. In fact, it will cut as much wood, big or little, as any man could wish, and no mistake about it.

E. W. SHELDON.

*** Orders by letter or otherwise promptly attended to, and if accompanied with the cash five per cent can be deducted from the price. Directions for using, making Log-way, &c., are furnished with each Machine.

The subscriber is sole agent for the sale of Emery's celebrated Horse Powers, Threshers, &c. This power is well adapted and most convenient for driving the above mill, and is furnishdd with it, when wanted, at manufacturer's prices, and transportation. For further particulars, address E. D. HALLOCK.

No. 2 Agricultural Buildings, 108 Buffalo St., Rochester, N. Y

THE HORSE—MOST NOBLE ANIMAL.

THAT indefatigable laborer in behalf of true Veterinary Science, Dr. GEORGE H. DADD, has in press, to be published by us during the winter, the most superb work on the Horse ever published in the world, entitled,

THE ANATOMY AND PHYSIOLOGY OF THE HORSE.

In one large octavo vol. of 300 pages. Illustrated with 20 superb Anatomical Plates of the Horse, from a great French work.

Price, with colored plates, ... $4
" with uncolored plates, ... $2

Orders for this elegant and valuable work in advance of publication, are solicited by the Publishers.

Also, just published, the eleventh thousand of

THE MODERN HORSE DOCTOR,
By Dr. GEORGE H. DADD,

Undoubtedly the best work ever issued from the American press on the *Causes, Nature and Treatment of Diseases and Lameness in Horses.* Price $1.

Every man who owns a horse should own this book.

JOHN P. JEWETT & CO., Publishers,
Nov. 1—4t. 117 Washington street, Boston.

PLEASE TO READ THIS.

EMPLOYMENT FOR THE WINTER. Persons out of employment may find that which is both profitable and pleasant by addressing ROBERT SEARS, Publisher,
Jan. 1—4t. No. 181 William street, New York.

Genesee Farmer for 1857.

THE circulation of the *Genesee Farmer* during the past year has been nearly double what it was in 1855. Encouraged by this success, we have determined to make great improvements in the present volume, and to spare neither labor nor expense in our efforts to make this Pioneer Agricultural Journal still more worthy of that extensive patronage it has so long enjoyed.

The *Genesee Farmer* is not a reprint. Every line is set up for it, and for it alone. We believe this is true of no other *fifty cent* Agricultural Paper in the country. The *Genesee Farmer* is beyond all doubt the CHEAPEST AGRICULTURAL AND HORTICULTURAL JOURNAL IN THE WORLD.—In Clubs of eight, you get THREE HUNDRED AND EIGHTY-FOUR LARGE, AND CLOSELY PRINTED PAGES, illustrated with numerous and costly engravings, for the small sum of *thirty-seven and a half cents.* Surely no farmer, for the future, will be without an agricultural paper. *If there is any farmer who cannot afford to pay so small a sum, we will, on application, make him a present of the paper for a year, for we are certain he cannot afford to be without it.*

The large circulation of the *Genesee Farmer* is mainly due to the voluntary efforts of the friends of agricultural improvement in all parts of the country. We cannot reward them. The consciousness of their disinterested labors must be their recompense. Wishing to do what we can, however, we offer the following

LIBERAL PREMIUMS FOR 1857.

1. To every person who sends EIGHT Subscribers, *(at our lowest terms of thirty-seven and a half cents each,)* we will send, postage paid, a copy of our beautiful twenty-five cent book the *Rural Annual* for 1857.

2. To every person who sends us SIXTEEN subscribers, (at our lowest club terms of *thirty-seven and a half cents each,*) one extra copy of the *Genesee Farmer*, and one copy of the *Rural Annual.*

3. To every person sending us TWENTY-FOUR subscribers, as above, two copies of the *Rural Annual*, and one extra copy of the *Farmer*, or any agricultural work valued at 50 cents, postage paid.

4. To any person ordering THIRTY-TWO copies of the *Farmer*, as above, three copies of the *Rural Annual* and one extra copy of the *Farmer*, or any agricultural book valued at 75 cents, postage paid.

5. For FORTY, four copies of the *Rural Annual* and one extra copy of the *Farmer*, or any agricultural book valued at $1, postage paid, or four extra copies of the *Farmer.*

6. For FORTY-EIGHT, five copies of the *Rural Annual* and one extra copy of the *Farmer*, or any agricultural book valued at $1,25, postage paid, or five extra copies of the *Farmer.*

For larger numbers, books or papers given in the same proportion.

☞ To save expense to our friends, we pay the postage on all these works, and persons entitled will state what they wish sent, and make their selections when they send orders; or if their list is not complete, if wished, we will delay sending until the club is full.

Premiums for the Greatest Number of Subscribers.

In order to excite a little competition among our friends everywhere, as well as to reward them for their voluntary labors in behalf of our journal, we make the following liberal offers. Those who do not get the premiums offered below are sure of the above, so that we have no blanks.

1 FIFTY DOLLARS, in Agricultural Books (at the lowest prices,) to the person who shall send us the largest number of subscribers at the club prices, before the 15th day of April next, so that we may announce the successful competitors in the May number.

2. THIRTY DOLLARS, in Agricultural Books, to the person who shall send us the second highest list, as above.

3. TWENTY DOLLARS, in Agricultural Books to the person who shall send the third highest lists, as above.

4. FIFTEEN DOLLARS, in Agricultural Books, to the person who shall send us the fourth highest list, as above.

5. TEN DOLLARS in Agricultural Books, to the person who shall send us the fifth highest list, as above.

Our object in offering books is to increase their circulation throughout the country. If any prefer the cash they can be accommodated.

CLUBS are not required to be at one post office or sent to one address. We send wherever the members of the club may desire.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY FOR 1857.—We have made great improvements in the present volume of this work. It is considerably larger than that of last year, profusely illustrated with expensive wood cuts, engraved expressly for the work; printed with new type, on better paper, and the pages surrounded with a neat border; while the originality, practical value and variety of the reading matter are such as to render the *Rural Annual* for 1857 worthy a place at every fireside in the country. Every one interested in rural pursuits should have a copy. Price, 25 cents a copy, postage paid.

THE RURAL ANNUAL AND GENESEE FARMER IN CLUBS.

Every Subscriber to the *Farmer* should have a copy of the *Rural Annual.* In clubs of eight, we send the *Farmer* for one year, and a copy of the *Rural Annual* for fifty cents. In other words, for FOUR DOLLARS we will send *eight copies* of the *Farmer* for one year, and eight copies of the *Rural Annual.* For EIGHT DOLLARS we will send *sixteen copies* of the *Genesee Farmer* and *sixteen copies* of the *Rural Annual*, and one extra copy of each for the person who gets up the Club.

Any person sending us $3 for a club of eight of the *Genesee Farmer* shall receive one copy of the *Rural Annual* for his trouble, postage paid.

Postmasters, Farmers, and all friends of Rural Improvement are respectfully solicited to obtain and forward subscriptions. Money may be sent at our risk. Address,

JOSEPH HARRIS,
Rochester, N.Y

INGERSOLL'S
PREMIUM PORTABLE HAY PRESS.

THIS Press combines greater power and portability, and requires less labor, occupies less space, and costs less space, and costs less money than any other machine for baling hay ever offered to the public.

It is equally convenient for pressing Cotton, Hemp, Hops, Broom Corn, Rags, Husks, &c. Samples may be seen at our Warehouse, and circulars with cuts and full descriptions will be furnished upon application by letter or otherwise, to

FAIRBANKS & CO.
Scale Manufacturers,
No. 189 Broadway,
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